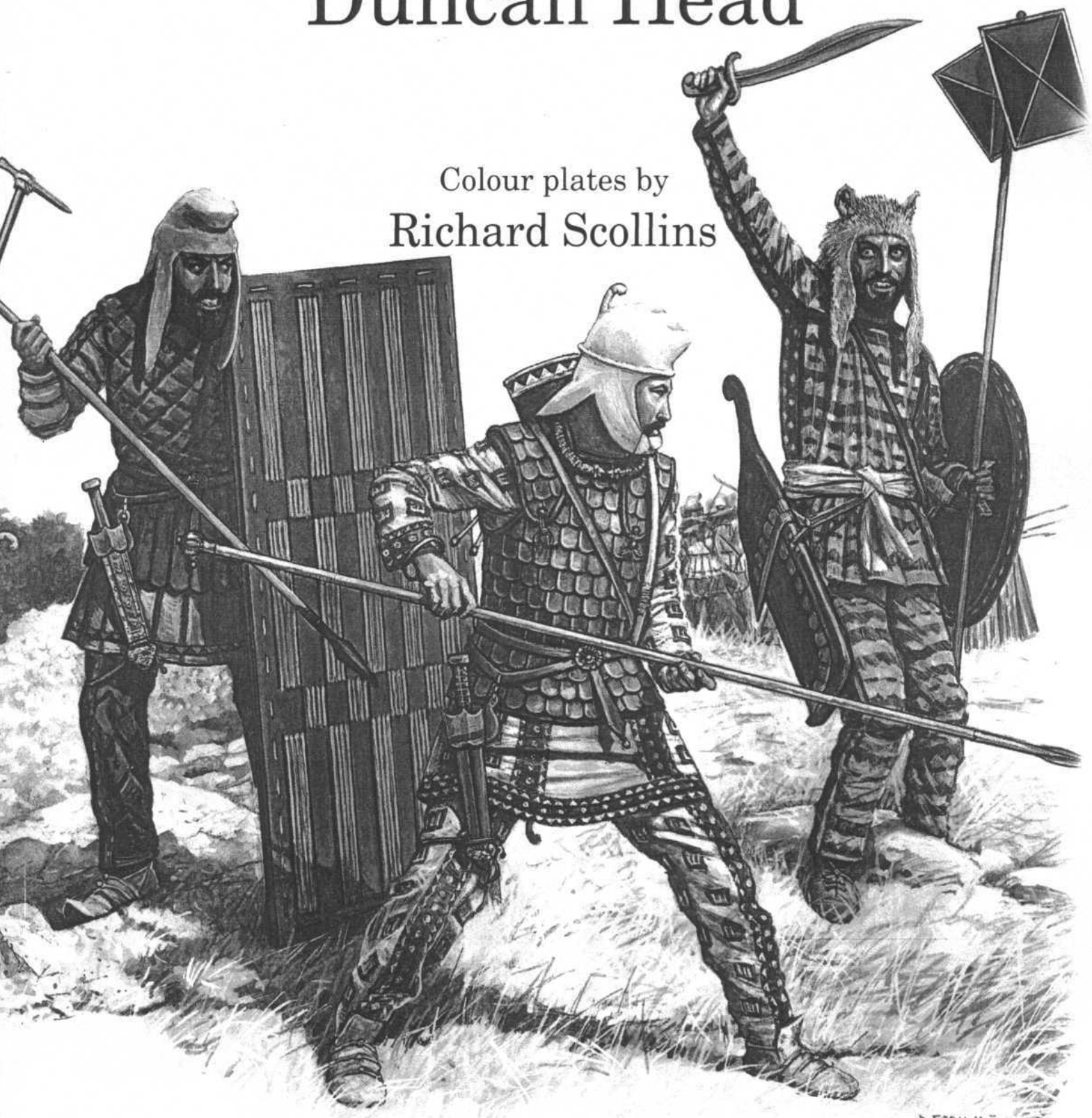


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THE ACHAEMENID PERSIAN ARMY

Duncan Head

Colour plates by
Richard Scollins



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The Achaemenid Persian Army

by Duncan Head

Colour plates by Richard Scollins

Line drawings of troop types by Christopher Rothero

Line drawings of source material by Niki Head and Duncan Head

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This book is for Niki, with love and thanks

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Thanks are also due to Phil Greenough, a most patient and supportive publisher.

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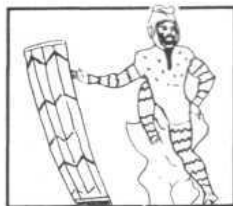
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A note to the reader: This is one of a series of Montvert titles which aim to present some of the best up-to-date analyses of the history, dress, equipment and organization of various ancient and mediaeval armies.

Philip Greenough, editor



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The Achaemenid Persian Army

Introduction

The Achaemenid Persian empire dominated the Near East and the eastern Mediterranean for about two centuries, from the mid-sixth century BC to the mid-fourth. It was the largest empire the world had yet seen, and in many ways the most successful. For a long time we have seen Persia mainly through the eyes of the classical Greeks; Greek historians were originally the main sources for knowledge of the Persians, and remain vital even now. This perspective meant that Persia was traditionally seen from a hostile viewpoint; and, since a coalition of Greek states stopped Persian expansion in the West and a Greek conqueror eventually brought the empire down, we have a view of the Persians as *defeated* enemies which can all too easily mask the empire's real military achievements. Fortunately, other sources are increasingly becoming available to correct the Greek bias, and it is possible to try and draw a balanced picture of Persian military organization - though still a picture which inevitably depends heavily on Greek evidence.

Historical outline

The Persians, and their cousins the Medes, first emerge as peoples known to history in Assyrian records of the ninth century BC. At that time the Persians were dwelling in what is now Iranian Kurdistan and the Medes further south in the Zagros mountains. How long they had occupied these lands, and from where they had entered Iran, are still uncertain.

At first the Medes were by far the more powerful of the two peoples. In the seventh century they developed a powerful kingdom in western Iran, with its capital at Agbatana (or Ecbatana; modern Hamadan); and at some stage they subdued the Persians. Median armies, in alliance with the Babylonians, captured Nineveh in 612 BC and destroyed the Assyrian empire.

We know disappointingly little about the Median kingdom. Its administrative and military organization must have influenced that of the later Persian empire - terms such as *satrap* seem to be Median - but we have no detailed knowledge of this organization. The eastern borders of the Median empire are uncertain; some scholars suggest it included Bactria, while others suggest an independent Bactrian state. In the West, the Medes conquered the Urartian kingdom (into whose territory the Armenians were already moving) and fought a war with the rising Lydian kingdom which fixed their border on the Halys river in central Anatolia.

The Persians at this time were ruled by kings of the Achaemenid dynasty, under Median overlordship. Persian kings appear under two titles, "King of Parsa" and "King of Anshan", and it was long thought that this represented two branches of the dynasty. But inscriptions found in 1972 identify Anshan as a city in Parsa - the modern Iranian province of Fars - and suggest there was only one Persian kingdom.

The Persian vassal-kingdom was turned into an empire by Cyrus, called the Great, son of King Cambyses of Parsa and of a daughter of the Median king Astyages. About 550 BC Cyrus rebelled, with the help of mutiny within the Median army, and overthrew his grandfather Astyages. The resulting Persian empire was to some extent the Median empire under new management, and the Medes continued to enjoy high status. Cyrus proceeded to conquer western Anatolia from Kroisos of Lydia, in 546 BC; to campaign in eastern Iran; and, in 539, to capture Babylon and its possessions in Iraq and Syria as far as the Egyptian border.

Cyrus is credited in some sources with establishing the distinctive features of Persian military and administrative organization, but it is not clear how far this was in fact his work. He was killed, in summer 530 BC, campaigning in Central Asia - against the Massagetai in one story, or the obscure Derbikes in another.

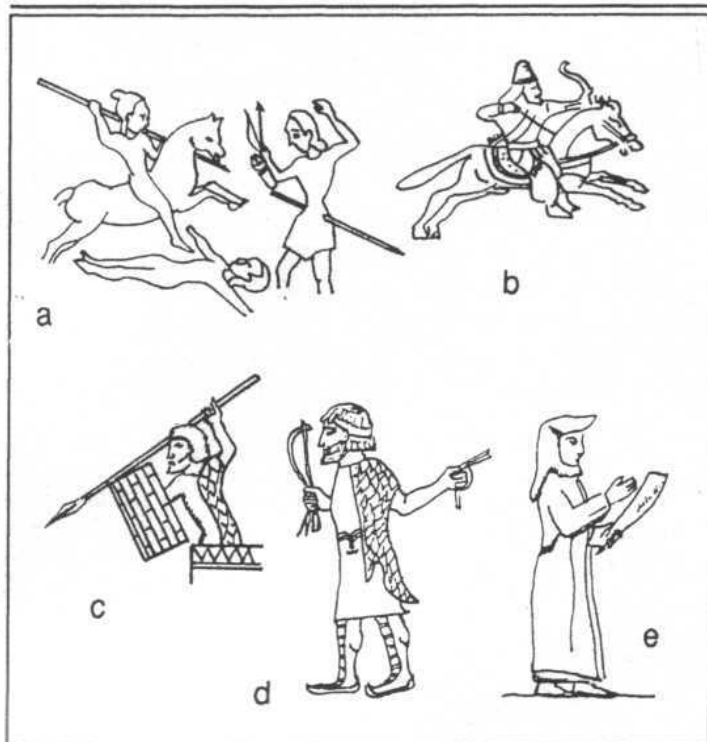


Figure 1: Before the empire - (a) From the seal of Cyrus King of Anshan, probably grandfather of Cyrus the Great (after Cook). (b) Mounted archer, detail of decoration of a gold scabbard-plate from the Oxus Treasure (a collection of mostly Achaemenid objects found, probably on the north bank of the Oxus in ancient Sogdia, in the 19th century). This may be Median work of the 7th-6th centuries BC; and the archer may be a Median king, since his headgear resembles the Assyrian crown. (c, d) Medes from Assyrian reliefs, late 8th century. (e) Mede, probably a priest, from Median rock tomb near Sar-i-Pul in the Zagros, 7th or 6th century. Unlike the Assyrian figures, he wears a costume similar to the Median dress of the Achaemenid period.

Cyrus' son and successor Cambyses conquered the Saitic kingdom of Egypt - which was to prove one of Persia's most rebellious provinces - but failed against "Aithiopia", the Egyptian-influenced Kushite kingdom of Meroe. He died in Syria on the way home. There followed a confused period of usurpation and rebellion. At the end of it Darius, who was of a separate branch of the Achaemenid family, was firmly seated on the throne and had restored the empire to order. He claimed to have overthrown a usurper and then, in a period of one year, to have fought nineteen battles and captured nine rebel kings. Reconstructions of the events of this period depend largely on whether you believe Darius' own account, recorded in a surviving inscription; many scholars suspect that it was Cambyses' legitimate heir whom Darius overthrew.

Darius I was the last king who significantly expanded the borders of the Persian Empire. Campaigning in the East after his wars against the rebels he subdued the Saka Tigrakhauda, one of several Saka steppe nomad groups, and added part of north-western India to the empire. In the west his war against the European Scythians (about 512 BC) was a humiliating failure, but his generals conquered most of Thrace and Macedon. Progress was halted by the great revolt of the Ionian Greeks in 499 BC, assisted by Athens and Eretria in Greece proper. Ionia, Karia and Cyprus were lost; the Lydian capital Sardis was burned, though not taken. But when Darius managed to put together a fleet that could match the Ionians', the revolt was gradually suppressed. To avenge himself on the Athenians and Eretrians, Darius launched a direct amphibious assault, with specially prepared horse-transports; in 490 BC this expedition sailed through the Aegean, overrunning the islands. The Persian commander Datis assaulted and captured Eretria; the city's temples were burned, its inhabitants deported.

Moving on to Athens, however, Datis landed at Marathon only to see his army defeated by an unexpectedly swift attack by the Athenian hoplites - the Greek heavy infantry. At the time this was probably seen as a minor setback on the frontier; but with hindsight, it became the first decisive Greek victory of the great Persian Wars. Darius clearly wished to avenge the defeat of Marathon, but was prevented by revolts in Egypt. He died in 486 BC.

Darius' son Xerxes had first to deal with Babylonian revolts. But when he could, he put together a vast expedition - the only certainty about its size is that it struck the Greeks as unprecedentedly huge - and in spring 480 BC set out from Asia Minor, crossed the Hellespont on bridges of boats, and moved through Thrace and northern Greece. The army was supported and supplied by the fleet. The northern Greek states submitted, and some supplied troops to the Persian army. A Spartan-led force defending the Thermopylai pass was overwhelmed, and the allied Greek fleet was forced to withdraw from its nearby position at Artemision. Xerxes occupied Athens, which had been evacuated by most of its people.

But this was the limit of Persian success; the Greek allies defeated Xerxes' fleet at Salamis. Without a fleet, he could neither advance with any hope of conquering the Peloponnese, nor guarantee supplies for his army. So Xerxes and most of the army withdrew, leaving Mardonios with a large force of picked troops. In 479 BC, Mardonios engaged an allied Greek army at Plataia in Boiotia; but after initial successes he was defeated and killed. The Persian survivors retreated through Greece and Thrace to Asia.

Soon after, the Greeks defeated the Persians in Ionia at the battle of Mykale. The Greek allies, led by Athens, cleared the Persians out of Thrace, Ionia and Cyprus, defeated them at the Eurymedon river in Pamphylia about 466 BC, and supported rebellions in Egypt, until 449 when Xerxes' successor Artaxerxes I negotiated the "Peace of Kallias" with Athens.

Artaxerxes died in 424 BC. His son Xerxes II was soon murdered by his illegitimate brother Sogdianos; he in turn was replaced by another illegitimate son of Artaxerxes, who became king as Darius II. Thereafter, revolts seem to have come more frequently - in Media, in Kadousia on the Caspian coast, and in 404 BC, a great revolt that secured Egyptian independence. It was presumably in this period that outlying lands began to fall away from Persian rule. For example, by 400 BC most of the southern Black Sea coast was independent. In the fourth century, losses increased; the Bithynian Thracian kings maintained their independence for most of the century, and by the time of Alexander's conquest Chorasmia and India had been independent of Persia for some time.

In 412 BC Persia began to intervene in Greek affairs again, in an alliance with Sparta to curb Athens in the Aegean. About 408 BC, Cyrus "the Younger", a son of Darius II, was put in charge of Persian affairs in Asia Minor. But when his brother succeeded as Artaxerxes II, Cyrus used this power base in a bid for the throne instead. He raised a Greek mercenary army and marched east, only to be defeated and killed at Kounaxa in Babylonia. The Greeks, one of whose leaders was now the Athenian Xenophon, fought their way back through Persian territory and independent tribes to the Black Sea, giving an epic demonstration of Persia's military weakness. Some of them took service with Sparta, which had supported Cyrus and was now fighting the Persians in Asia Minor. But Sparta could not long stand against both Persia and enemies in Greece, and when the "King's Peace" was signed in 386 BC, the Greek cities of Asia reverted to Persian rule.

The following decades saw repeated attempts to reconquer Egypt, and several revolts by Persian satraps in Asia Minor - through the 360s and 350s, it seemed that no sooner was one satrap reconciled or subdued than another was up in arms. In Karia, Armenia and elsewhere, nominally loyal satraps were creating hereditary dynasties. Artaxerxes III, coming to the throne in 358 BC, eventually pacified Anatolia and even succeeded, in 343, in reconquering Egypt. But just as the Achaemenid frontiers seemed to be restored, a new enemy arose; Philip II of Macedon sent an expedition to Asia in 336 BC.

Figure 2: The Great King triumphant - Darius I, on his Behistun propaganda relief, trampling the "pretender" Smerdis underfoot; before him are the defeated rebel kings, with Skunkha the Saka added later at the end.

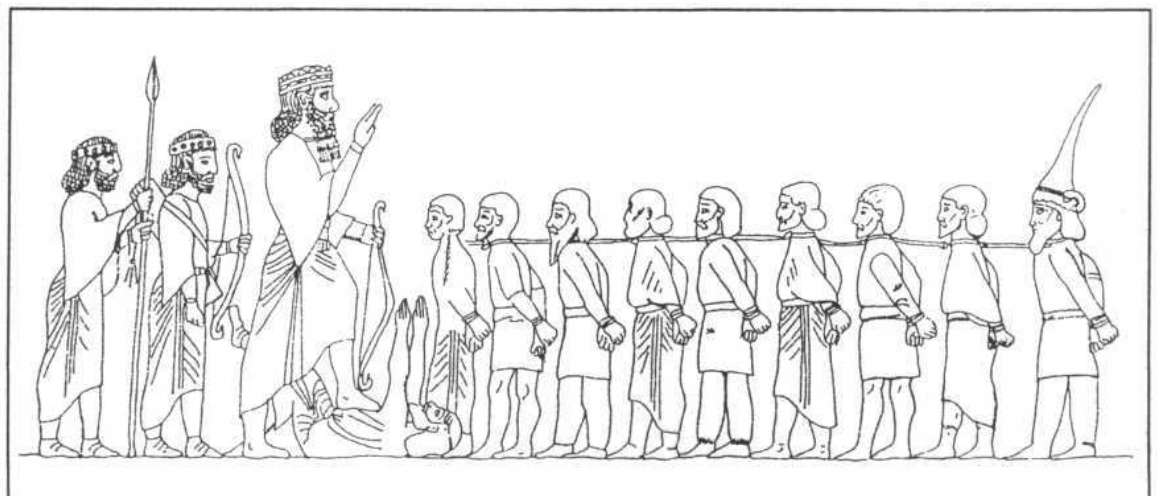


Figure 3: The Great King in flight - Darius III shown in his chariot on the Issos mosaic, a Roman copy of a Hellenistic painting.



That same year, Darius III came to the throne in Persia, and Alexander III in Macedon. In 331 Alexander invaded Asia, with an empty treasury and what seemed a ridiculously small army. He defeated the local satraps' forces on the Graneikos river, and overran Anatolia with little further resistance. Darius assembled a large army and outmanoeuvred Alexander in the north Syrian passes, but was decisively beaten in battle at Issos. While Alexander secured Syria and Egypt Darius raised another huge army, including troops from the easternmost provinces who had not been assembled at Issos; but he was again defeated at Gaugamela. As he fled eastward, Darius was murdered by Bessos, satrap of Baktria, who tried to lead resistance in eastern Iran. But Bessos had no success, and all the Persian empire fell under Macedonian rule.

The sources

The sources for Achaemenid military history are mixed. The Persians themselves produced little history, though some of the royal inscriptions provide narratives of events. For a connected narrative that puts events in sequence, however, we still depend on the Greek historians. The first and greatest of these is Herodotos, who described the rise of the Persians as the background to his main story, the great Persian-Greek wars. There was a school of thought in antiquity that held that Herodotos was not a reliable historian, but had made up most of his story. This is not a view

widely followed today; but Herodotos must still be read with caution, for he was not an eye-witness of the events he described, many of his sources were anti-Persian, and his motives were not quite those of a modern historian. The second main source is Xenophon, whose *Anabasis* is an eye-witness account of Cyrus the Younger's rebellion and the return march of the Greek mercenaries; his *Kyropaidia* is an historical novel cast as a biography of Cyrus the Great. (Its final section, about the decline of Persian military institutions since the days of Cyrus, may not be Xenophon's own work.) Other Greek writers include Diodoros the Sicilian, a later compiler whose universal history drew on various sources, some more reputable than others. The historians of Alexander the Great of course give information on the last days of the Achaemenids.

Non-Greek textual sources modify this picture. Some of the books of the Old Testament touch on affairs in Palestine under Persian rule, though they have little to say of military matters. Babylonian chronicles sometimes allow a more precise dating of specific events than do other sources; and some other Babylonian tablets cast light on the military organization of that province. Similarly, some Egyptian papyri describe the affairs of garrison units in Egypt under Persian rule. Persian texts, apart from Darius' inscriptions narrating his career, include administrative tablets from Persepolis and lists of subject peoples carved on royal tombs.

For the dress and armament of Persian soldiers, there are a variety of artistic sources. The art of Persian royal palaces - the great relief sculptures of Persepolis and the glazed-brick tiles of Susa - depict guardsmen at the court. Persepolis also provides reliefs of tributary peoples, the same nations who provided the subject troops of Persian armies. Reliefs on the royal tombs show subjects holding up the royal throne; most of them are armed, and some are dressed more simply than their counterparts on the better-known Apadana reliefs, so they may be a better guide to military costume. On some of the tombs, the various nationalities are identified by name - whereas the identity of some of the Apadana figures is uncertain.

There are also many Persian seals, some showing Greek influence, carved with battle scenes or other representations of soldiers. After the Persian Wars, Persian soldiers become a fairly common theme in Greek vase-painting. Other parts of the empire provide representations of their own local warriors; the tomb-paintings and reliefs of Lykia, showing a mixture of Persian, Greek and local styles of equipment, are noteworthy.

Military organization

One characteristic of the Persian attitude to empire was a readiness to let their subject peoples maintain their own institutions, where these did not conflict with Persian rule. This extended to the military sphere, and in province after province we find the Persians using existing local institutions to raise troops. This can make it quite difficult to identify a distinctively *Persian* military system.

Command

At the heart of Achaemenid military organization was the King - "the great king, king of kings, king of lands containing many men, king in this great earth far and wide..." - and from the founder Cyrus to the last king Darius III, Persian kings were expected to command their armies in the field for major campaigns. Thus Darius I personally led his

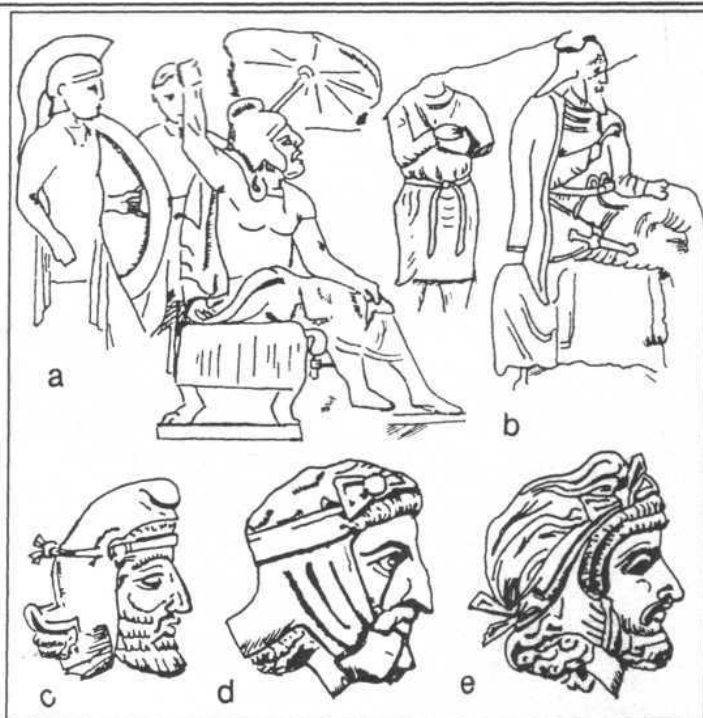


Figure 4: Satraps and governors - (a) Persian dignitary (Shahbazi (1975) identifies him as the satrap Tissaphernes) depicted on the Nereid monument from Lykia (see Figure 44) along with a parasol-bearer and a Greek hoplite bodyguard. (b) The satrap Autophradates in audience, from the Lykian sarcophagus of Payava (Figure 43c). (c) From a coin of Xherei, Lykian prince of Xanthos about 430-410 BC. Here a native governor is shown in Persian cap and diadem. (d) From a coin of Tissaphernes, satrap of Lydia. (e) From a coin of Pharnabazos, satrap of Daskylion.

armies against the Scythians, Xerxes led the invasion of Greece, Artaxerxes II took the field against his rebel brother Cyrus, and Artaxerxes III campaigned against rebels in Phoenicia and Egypt.

But the King could not command every campaign himself, if only because it was not always safe to spend years away from the centre of the empire's government. Minor local operations would be commanded by provincial governors, the satraps. More important campaigns could be conducted by generals sent specifically from court. These were often members of the high Persian nobility, frequently of the royal Achaemenid house itself. For example Mardonios, who campaigned in Thrace in 492 and commanded the army in Greece after Xerxes' withdrawal in 479, was both the son of Darius' sister and married to Darius' daughter; one of the commanders at Marathon was Artaphernes, another nephew of

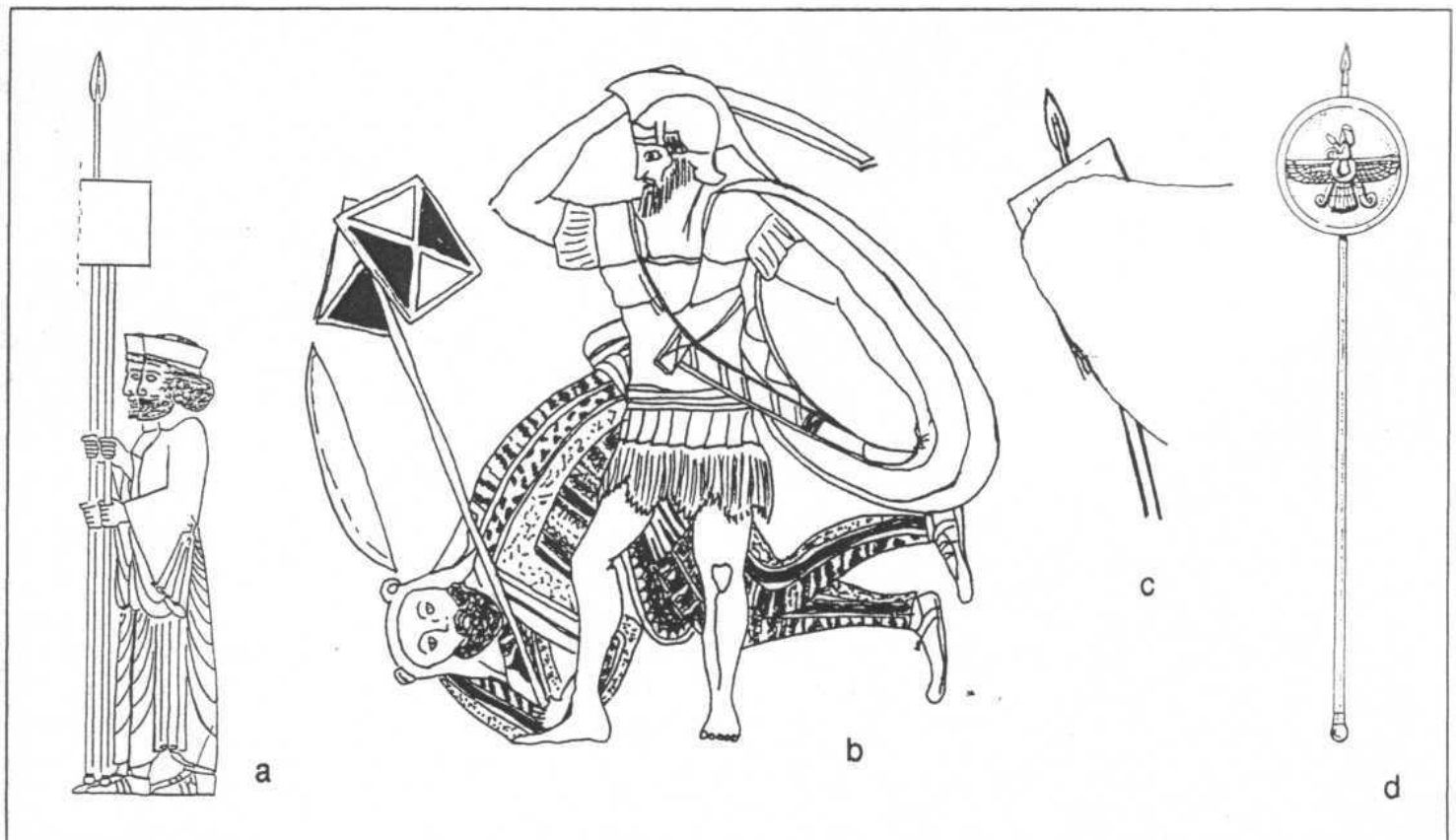
Darius; the prince Cyrus the Younger was sent, during his father's reign, to co-ordinate the efforts of the western satraps against Athens; Darius III, as a prince, commanded forces against rebellious Kadousioi. But other high-ranking generals were not necessarily even Persians. The generals named in Darius' inscriptions as putting down rebels after his accession include the Armenian Dadarshish and Takhmaspada the Mede; Artaphernes' senior colleague at Marathon was Datis, a Mede; Cyrus the Younger's admiral was the Egyptian Tamos. As Greek military influence on Persia increased in the fourth century Greek officers, not even subjects of the Persian king, rose to high positions; but they were usually subject to Persian superiors, as Iphikrates the Athenian, campaigning against Egypt in the 370s, was subordinate to Pharnabazos.

Unlike contemporary Greeks, Persian armies used military standards as emblems of command; Xenophon's *Kyropaidia* says that

each commander displayed one on his tent. In Plutarch's *Life of Artaxerxes*, one of those who claimed credit for killing Cyrus the Younger was a Karian who wounded him with a javelin; as a reward, the Karian was given the privilege of bearing a golden cockerel on a spear in front of the army. It sounds as if he was promoted to standard-bearer, the standard being a figure of a cock; but that a Greek source who transmitted the story did not understand its significance, as the Greek armies did not use standards.

The Achaemenid royal standard is described as a golden eagle, wings outspread; Xenophon saw it marking Artaxerxes' position at Kounaxa. He describes it in the *Anabasis* as on a *pelte*, a light round or crescent-shaped shield; and in the *Kyropaidia* as carried on a long spear. The eagle itself was not an important Achaemenid symbol, but the winged sun-disc is ever present in Achaemenid art, and the term "eagle" surely refers to this - see Figure 5d.

Figure 5: Standards - (a) Guardsmen from an audience relief at Persepolis. The nearer figure carries a standard, a square plaque on a shaft. (b) Fallen standard-bearer from an Attic red-figure bowl by Douris, perhaps 470s BC. Note the sword drawn back behind his shoulder, the shield above his head, and the "ears" on his head-dress. (c) Damaged Persian standard from the Issos Mosaic; this may also be a plaque, or perhaps a cloth vexillum. (d) Reconstruction of the Achaemenid royal standard, the winged emblem of Ahura-Mazda on a golden disc, mounted on a spear.



Persian military training

Xenophon's *Kyropaidia* describes the military training undergone by Persian youths. From the age of seventeen, for ten years, they form a body which the King can call upon, and he frequently takes them with him when he goes out to hunt; they take "their bows and their quivers, and a sheathed *kopis* (sword) or *sagaris* (axe), with a *gerrhon* (wicker shield) and two *palta* (javelins)". The hunt is seen as a method of training for war, accustoming the youths to physical exercise, long marches, and the use of weapons. They are also used for police work - "either to keep guard, or to search for evil-doers, or to pursue robbers". Xenophon adds that only those Persians who can afford to maintain their sons send them for this kind of training. The geographer Strabo, who compiled his work from earlier sources in the first century BC, describes the same institution; the boys in training are divided into companies of fifty, and they are called *kardakes* "for *karda* means the manly and warlike spirit.... They hunt by throwing spears from horseback, and with bows and slings" (XV.3.18).

Both sources suggest that this training was confined to the Persians themselves, rather than being general throughout the empire (the Persians may positively have discouraged military training among some of their subject nations; Xenophon, *Kyropaidia* VII.4.15, claims Cyrus the Great disarmed many of them); and indeed was confined to the richer among the Persians. We do not know whether it was sufficiently widespread that the Persian infantry, were presumably less prosperous than the cavalrymen, would have had such training.

The guardsmen illustrated at Susa and Persepolis are all in one position, standing left foot forward with the spear-butt resting on the left instep; the posture occurs elsewhere as well (Figure 8e). This looks very like a standard "at ease" position, and may indicate formal weapons drill, at least for the élite units. By contrast to the high standard of training this implies, Achaemenid troops of lower status are described as a rabble "for their officers came behind the companies with whips and drove all the men forward with lashes" (Herodotos VII.223; compare Xenophon, *Anabasis* III.4, where skirmishers are driven on under the

lash); but perhaps this merely reflects the harsh discipline of a regular army, the whips analogous to Roman centurions' vine-staffs.

Guards units

We have a description, in Herodotos' account of Xerxes' invasion of Greece (VII.40-41), of the guards units in service at that time.

The King was accompanied by two units each of a thousand horsemen - one "picked out of all Persia", the other also called "picked Persian horsemen". There were also two units of picked infantry, each a thousand strong; one body marched with their spears reversed, the butts decorated with "golden pomegranates"; the second, "all men of the best and noblest Persian blood", had golden apples on their spear-butts. Herodotos calls these troops "spear-bearers", *doruphoroi* or *aichmophoroi*; the Persian equivalent would be *arstibara*, which is attested as the rank of an individual - the king's own spear-bearer - though not as a unit title. A fragment from Herakleides of Kyme claims that the "apple-bearers", the second of these units, were selected from the ten thousand Immortals; but Herodotos' description of the order of march clearly depicts both bodies of spear-bearers as separate units from the Immortals.

The Immortals (Sekunda (1988b) reconstructs their Persian name as *amrtaka*) were ten thousand Persian infantry, "chosen for quality out of all that remained" after the spear-bearers had been selected. The unit was so named "because it was invariably kept up to strength; if a man was killed or fell sick, the vacancy he left was at once filled, so that its strength was never more nor less than ten thousand". Presumably the gaps in the Immortals were filled by men promoted from other units.

Lines of guardsmen are depicted on the reliefs at Persepolis and the glazed tiles at Susa; the Susa figures are often assumed to be Immortals. Some of the Persepolis figures are in Median dress, yet Herodotos describes the guards units as all ethnic Persians; but at least one named dignitary wearing Median dress on the reliefs appears from other sources to be a Persian, so Median dress might not always imply Medes.

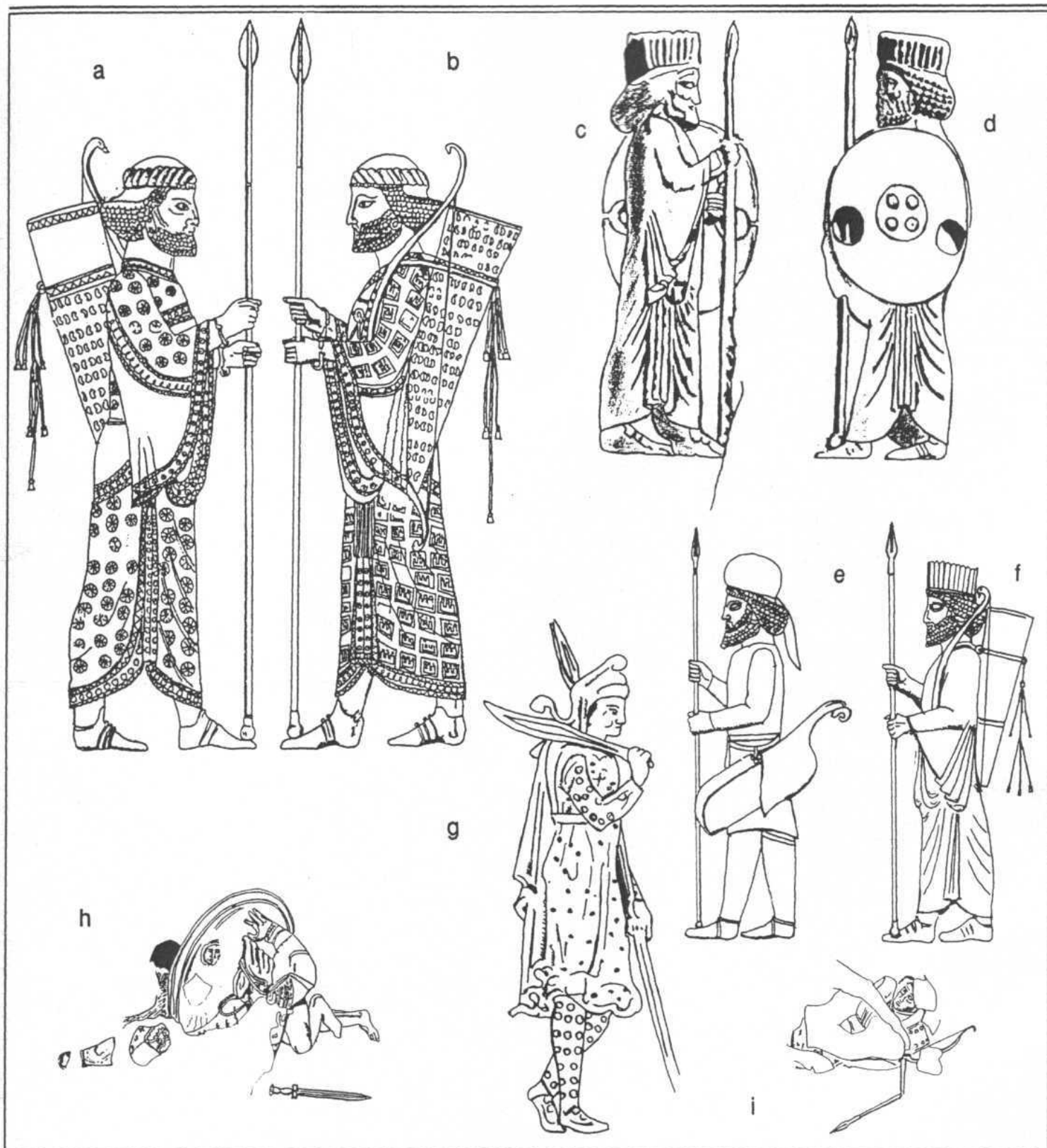


Figure 6: Achaemenid guards - (a) and (b) Guardsmen from glazed-brick reliefs at Susa, probably Immortals. Two distinct styles of colour and pattern are shown (though there are minor variations, perhaps because of simple carelessness), possibly reflecting two regimental uniforms. 6a has a yellow and brown robe decorated with rosettes (see Plate 1A), 6b wears white and yellow, decorated with stylised fire-altars. (c) and (d) Guardsman in Persian dress from the Apadana at Persepolis, with spears and shields. The fluted cap, as worn by Persian nobles (see Figure 8a), may mean that they are "spear-bearers"; other guards at Persepolis wear simpler headgear. (e) and (f) Guardsman in Median and in Persian dress, from Persepolis, with spears and bows. (g) Persian guardsman standing behind the royal throne on the Darius Vase, late fourth-century south Italian. His two javelins suggest he is a dismounted cavalryman. (h) and (i) Fallen figures from the Issos Mosaic; as they are shown close to the royal chariot but not associated with horses, they may be infantry guardsmen. Both wear yellow caps, brown clothes decorated in white, and cuirasses; 6i has a bow. 6h's face is reflected in the polished bronze shield of a fallen Greek hoplite mercenary. Earlier (Head 1982) I identified this as the Persian's shield, but in fact its bare-legged Greek owner can be seen behind it.

The Immortals are not definitely mentioned after Xerxes' reign. Xenophon's *Kyropaidia* claims that Cyrus the Great established ten thousand spearmen as his guards, and that the force continued "until the present"; it sounds as if Xenophon means the Immortals, and as if he believed that they were still in existence when he wrote in the 360s. But they do not appear in his account of Cyrus the Younger's rebellion. They appear in Quintus Curtius' account of Darius III's order of march, but not in any other historian of the Alexander era; Curtius appears to have drawn on Herodotos in this passage, so the Immortals may be an anachronism here.

Whatever became of the Immortals, descriptions of Darius III's army show that some of the other guards units had survived. At Gaugamela, Arrian and Diodoros both mention a bodyguard infantry unit of "apple-bearers", with golden apples on their spear-butts just as in 480 BC, and a thousand "kinsman cavalry". These kinsmen may be the *euakai* cavalry whom Alexander incorporated into his army (Arrian VII.6.3); their Persian name would have been *huvaka* or *xvaka* (Sekunda 1988b). Diodoros implies that there were other household troops as well as these two units.

These guards were permanently embodied units, and when not on campaign would accompany the King or be stationed at the various royal capitals. But they seem to have been the only central standing forces that the Achaemenids maintained. Darius I's Behistun inscription says that "the Persian and Median army which was with me was small"; he also refers to "the small Persian army which was in the palace". (That this standing army is called "Persian and Median" reinforces the implication of the Median-dressed Persepolis guard figures, that there were Medes in the guards units.)

Troops in the provinces

Other ethnic Persian troops were not full-time soldiers. Darius also refers to the Persian "people-army", or "host" - *kara*, a word which can imply both "people" and "army" - who are "in their houses" before they take up arms. These are clearly a sort of militia; but they were not a universal levy, rather a reserve force holding land in exchange for military

obligations. Darius claims that the "usurper" Gaumata took away from these people their "bow-land"; the Babylonian version of his inscription uses the same word as for the fiefs held by military colonists in Babylonia, discussed below.

Outside Parsa itself, the raising of troops in the provinces was a more heterogeneous affair.

The empire was divided into provinces normally referred to as satrapies, under governors called satraps. Herodotos (III.89) lists twenty "provinces (*archai*), which the Persians call satrapies". Not all details of his list may be correct, but other evidence bears out the general impression that the satrapies were fairly large provinces, often containing several different national groups. Egypt, with neighbouring parts of Libya, was one satrapy, for example. Most satraps were high Persian or Median nobles, including relatives of the King. The satrapy of Kilikia was unusual in that its native royal dynasty was allowed to continue under Persian rule as a hereditary dynasty of satraps, with the title *Syennesis*. (The Kilikian dynasty disappears from the record at the end of the fifth century, perhaps deposed for supporting the revolt of Cyrus the Younger.)

Beneath the satraps, subordinates sometimes known to the Greeks as *hyparchoi*, "lieutenant-governors", looked after smaller areas. While most satraps were Persians, these lesser governors could often be natives. For example, Syria was usually a satrapy called Abarnahara, "Beyond the River". Under the satrap of Abarnahara, areas such as Judaea had their own governors, and the Phoenician and Cypriot cities were ruled by their own kings.

The satraps combined military and civil powers in their provinces and commanded the local troops, though some commanders of major garrisons seem to have been responsible not to the satrap but directly to the King. Subordinate governors might also command the troops from their area; Queen Artemisia of Halikarnassos, a subordinate of the satrap of Karia, commanded her own ships at Salamis.

The troops raised in the Achaemenid provinces can be considered under four headings. First,

satraps - often bodies of Persian cavalry. Secondly, in some provinces there were forces of foreign military colonists, rendering military service in exchange for land-holdings. Thirdly there were garrisons; garrison troops were often mercenaries, recruited either from outside the empire - Greek troops are the obvious example - or from some of the more warlike peoples within the empire's borders. Larger mercenary forces would be hired for specific campaigns. Finally come the provincial levies, native troops called out for a campaign.

Most governors maintained bodyguard units. The best known are Cyrus the Younger's 600 heavily-armed cavalry. Similarly Oroites, the satrap of Phrygia, Lydia and Ionia under Darius, had a bodyguard of 1,000 Persians. These local guards units may not have been a category clearly distinct from the next; we do not know how they were maintained, and they may have held land as military colonists.

Throughout the Achaemenid period, many troops were supported by grants of land in exchange for which they owed military service. Despite this apparent continuity Xenophon (or the author of the conclusion to his *Kyropaidia*) reckons that the quality of the Persian troops had declined by the 360s: "It used to be their custom in the past that those who held lands should provide cavalymen from their possessions, and that these should take the field in wartime, while those who performed garrison duty in defence of the country received pay for their services. But now the rulers make cavalymen out of bath-keepers, the attendants who place food before us, those who remove it, those who lull us to sleep, those that stand at table, their masseurs and other servants; these are the sort of men whom they make into cavalymen to serve for pay for them. These men make an appearance of numbers, but are useless in war." The claim is that the cavalry of earlier Persian armies had been provided by the nobles and their retainers; but that later on, these had been replaced by paid soldiers of lower quality. Plato, in the *Laws*, has a similar view: "In theory, their forces are reckoned by countless thousands, but all these thousands are useless for service. So they hire mercenaries and foreigners, as though they had no troops of their own, and look to them for their salvation".

We have evidence from Anatolia and Babylonia of cavalry contingents holding land in return for military service, though it is hard to say how common was the system outside these regions - it was used to raise contingents foreign to the province in which they were settled, so it may not have been appropriate in Iran. And there is evidence that, as time went on, some of these military land-holdings came into the hands of people not much interested in cavalry service.

Iranian cavalry were settled in Anatolia. Xenophon mentions Hyrkanian cavalry serving in Mysia, and Hyrkanian cavalry fought under the satrap of Lydia at the Graneikos; they may have been settlers from the area known as the "Hyrkanian Plain", in the Phrygios valley in Lydia. Their community survived into the Hellenistic period to be absorbed into the Graeco-Macedonian military class; they appear as the "Mosteni or Macedonian Hyrkanians" in the Roman writer Tacitus (*Annales* II.47). Herodotos says that Persians took over the land of Miletos after the Ionian revolt, and some place-names indicate Persian settlement in western Anatolia (Strabo mentions "Cyrus' Plain"; inscriptions refer to "Darius' village"). Kataonia in southern Kappadokia may have been another area of Persian settlement; Sekunda (1988a) suggests that the Phrygian and Kataonian cavalry listed at Gaugamela, since they stayed loyal to Darius although their provinces had been cut off by the Macedonian advance, are more likely to have been Iranian colonists than unwilling native conscripts.

In Babylonia, the military colonies represent a continuation of the old Neo-Babylonian empire's institutions, modified under the Achaemenids. Perhaps the establishment of military colonies in other regions was a Persian extension of Babylonian practice. Most of our evidence comes from tablets of the second half of the fifth century, but a few references show that the system was in place as early as the reign of Cambyses; it may have survived until the fall of the empire, if the Babylonians at Gaugamela were raised by this system.

The military land-holdings in Babylonia were grouped into cantons, *hatru*. Each was a kind of collective fief, granted not to an individual but to a group of soldiers of a particular nationality. The *hatru* were divided into

separate fiefs, of three types; *bīt qasti* or "bow lands", *bīt sisi* or *bīt aspatu* "horse lands", and *bīt narkabti* "chariot lands" - for the support of an infantryman, a cavalryman or a chariot respectively. (Although the infantry fief is termed "bow land", spearmen - *astebariāna* - also appear, apparently men of high status. These could be Persian guardsmen, supported by fiefs in Babylonia.) The "collective fief" is an old Babylonian institution, and the Babylonian term *ilku* was used as a general term for the fief and the dues owing from it; but the systematic settling of foreign soldiers, and the terminology of "bow land", seem to be Persian innovations. The separate fiefs were held by families rather than individuals, often appearing in the hands of several related joint fief-holders. Each *hatru* was supervised by a prefect, *saknu*, with a deputy, *sanû*. They supervised the collection of taxes, because the obligations of the fief-holders were not limited to military service - "complete taxes, a soldier for the King, flour for the King, the *târra* and all sorts of dues for the King's House". Some civil officials were maintained by fiefs in the same way as soldiers; and some land-holders paid *sâb sarri*, a tax designed to support soldiers, without having to serve themselves.

Some of the *hatru* were known by misleading names; one is called after the vanished Kimmerians, but its men were Saka, here known by the name of their predecessors on the steppes. The *hatru* of Achaemenid Babylonia included the following nationalities:

Gimirrai	"Kimmerians"; Saka
Indumai	Indians
Arumai	Areians?
Urastai	"Urartians"; Armenians
Miliduai	Men from Malatya?
Assiai	?
Sapardai	Lydians (from the name of the Lydian capital, Sardis)
Sirkai	?
Surai	Syrians, or Phoenicians
Arbai	Arabs
Bannesai, Mandikai, Sumutkunai	Local Babylonian groups

By the second half of the fifth century, the *hatru* had lost or diluted their original ethnic identities. Fief-holders are found who are of none of the nationalities of the *hatru*; Persians, Egyptians, Lykians, Jews. One document lists

the holders of seven fiefs in the canton of the Gimirrai; some of them have not Saka but Babylonian names - Iddin-Nabu son of Marduk, Nabu-rammu - though their *saknu*, Tîriparnâ, bears a suitably Iranian name. The most famous document is the agreement between Gadal-Iama the Jew and a Babylonian banker. Gadal-Iama's father Rahim-ili "sold" part of his fief to the Murasu bank, by the legal fiction of adopting one of the banking family as his son. Now, in 422 BC, the land is called upon to furnish a cavalryman for an expedition to Uruk; Gadal-Iama will to serve, if his Murasu co-fief-holders will provide the equipment he needs. Other fief-holders paid for substitutes rather than take the field in person; five other texts from 422 BC describe debts taken out by bow-fief holders for equipping and supplying soldiers. In a text as early as 530 BC, two fief-holders provide a soldier, one Nabulesunu, for the King, and give him money and provisions. In 397 BC, one Kusurea supplies pay, provisions and armament for a substitute.

Clearly many of the fiefs came into the hands of holders who were not soldiers. Tuplin (1987) suggests that taxes were regularly levied on the bow-lands and used to support troops, but that the additional obligation to provide an actual soldier was only rarely called upon; and that "the Babylonian evidence as a whole could reflect the King's increasing reliance on mercenary service paid for by taxation".

In contrast to Babylonia, what little evidence we have from Bactria and Sogdia (mostly the descriptions of Alexander's campaigns there) suggests that in these ethnically Iranian lands a "baronial" system, like that which Xenophon believed to be the original Persian system, survived. The resistance to Alexander was led by local nobles based on their own mountain-top castles; there is no indication that their men, except for some allied Saka, were anything other than local troops following local leaders. The Bactrian cavalry "dispersed to their homes" after their satrap Bessos fled to Sogdia, showing that they were locally raised men, with an attachment to Bactria itself more consistent with natives than with foreign colonists.

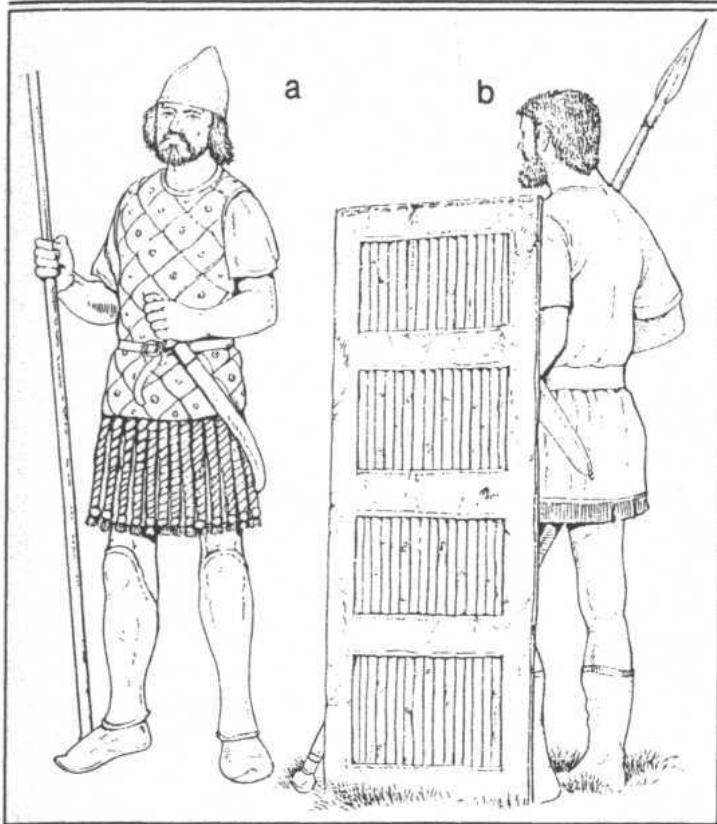


Figure 7: Provincial mercenaries - tribal mercenaries employed by Armenian satraps, as described by Xenophon. (a) is a Chalybian: "These were the most warlike of all the tribes on the way, and they fought with the Greeks at close quarters. They had body-armour of linen reaching down to the groin, and instead of skirts to their armour they wore thick twisted cords. They also wore helmets and greaves, and carried on their belts a knife of about the size of the Spartan xuele... They also carried a spear with one point, about twenty feet long." (Anabasis IV.7, and see IV.4.) The xuele is described by lexicographers as a short sword like a sickle; at Sparta it may have been a ritual weapon (K M T Chrimes, Ancient Sparta, 1949). The similar Chalybian dagger belongs to an Anatolian tradition of sickle-curved weapons. The great length of the spear, if correct, is surprising but would explain why no shield is mentioned, as such a long spear would be held in both hands. (b) is a Chaldaian; the Greeks used the same name as for the Chaldaeans of Mesopotamia, but these are a separate people, a remnant of the ancient Uartians who derive their name from the Uartian war-god Khaldi. Xenophon (IV.3) gives them long gerrha (cane or wicker shields) and spears - or pairs of javelins, in the Kyropaidia. This reconstruction shows clothing based on earlier Uartian art.

"Those who performed garrison duty in defence of the country received pay for their services"; and paid garrison troops are recorded from an early date. A Babylonian tablet of 515 BC records one Lukshu the Kardaka, (Kardaka in this case probably meaning "Kurdish", Xenophon's *Kardouchoi*) serving in a garrison in Babylonia, receiving "silver for his sheep, flour, salt, mustard, oil and good date brandy" as rations for the first three months of the year.

In later years Greek mercenaries were common garrison troops - they held Miletos against Alexander, for instance - but they were not the only ones; Kelainai in Phrygia was garrisoned at the same time by 1,000 Karians and 100 Greek mercenaries, responsible to the Persian satrap of Phrygia, and to resist Alexander's attack on Gaza its governor raised a force of mercenary Arab troops to supplement his garrison. When Xenophon and the Ten Thousand entered Armenia, they were opposed by the Armenian satrap with his cavalry (perhaps local nobles and Iranian fief-holders) and bodies of infantry - "Armenians and Mardians and Chaldaian mercenaries" (Anabasis IV.3); the governor of Western Armenia similarly had Chalybian and Taochian mercenaries as well as "his own force" (IV.4). These were typical of the mercenary forces raised, for garrisons or local campaigns, by governors with no access to Greeks; the Chaldaians "were said to be a free nation, and good fighting men"; the Mardians were probably subjects of the Great King, at least in name, and the Armenians certainly were. Whether nominally subject or free, the wild hill-peoples made a good source of local mercenary troops.

While the Phrygian and Armenian cases are of troops under the control of local satraps, some mercenaries were directly responsible to the King. When foraging in Mysia, Xenophon was attacked by a variety of troops, including "from Komana... some Assyrian hoplites and about eighty Hyrkanian cavalrymen, also in the King's pay". If the Hyrkanian cavalry at the Graneikos were not in fact military colonists from the "Hyrkanian Plain", they may have been mercenaries "in the king's pay" like these earlier Hyrkanians; their Baktrian and Median colleagues may have been from similar units sent to the west under direct royal authority.

The Achaemenid Persian army is commonly pictured, however, not as a force of quasi-feudal cavalry and mercenary garrison troops, but as a vast multi-national horde of subject levies. The Greek descriptions of Xerxes' invasion army in 480 BC, or of Darius III's army at Gaugamela, are of armies in which practically every nation of the Empire is represented. When Darius I campaigned against the Scythians the nations serving in his army "were, in fact, all over

which he had dominion"; when Xerxes marched against Greece, there was not a nation in Asia that he did not take with him. Arrian mentions at Issos "a great mass of light and heavy infantry... organized according to their countries of origin and drawn up in greater depth than was likely to prove of much service". We find implied here both parts of the Greek stereotype of Persian armies: that they were vast and multi-national, but cowardly and incompetent. "They made it plain to anyone, and not least to the King himself, that he had many men in his army, but few soldiers" - Herodotos on Thermopylai; later he claims that Persian troops were driven on under the whips of their officers.

But it is clear, even when we filter the bias from the Greek accounts, that Persian armies were multi-national, and that many troops of the subject nations may have been less than enthusiastic and less than well-trained. It is not clear how these subject troops were raised; but they were not necessarily untrained peasants plucked straight from their villages. One thing that is clear about the Achaemenid military system is that the Persians were willing to take over the indigenous military organizations of their subject provinces. Thus, native Egyptian troops were levied from existing hereditary warrior castes (as will be discussed below); Ionian Greek ships or hoplites were raised city by city using the Greek cities' own institutions; and many other subject troops may have been recruited in similar style.

One province for which we have a good picture is Egypt, where we can see how the various classes of troops co-existed. Herodotos lists as part of the Egyptian tribute "the 120,000 bushels of corn allowed to the Persian troops and their auxiliaries who were stationed in the White Castle at Memphis". This was apparently the main garrison in Egypt. Rostovtzeff (1935) notes Memphis as one of the many findspots for a common type of terracotta figurine of Persian cavalrymen (see Figure 22); they may show horsemen of the garrison. We do not know whether they were supported by land-grants, or directly paid from the province's tax-revenues in the same way that they were provisioned. "Their auxiliaries" may mean non-Iranian troops in Memphis, or other garrisons elsewhere in Egypt; Herodotos mentions

garrisons in Daphnai on the eastern border and Elephantine in the south, and Egyptian texts mention one at Migdol near Pelousion.

The garrison at Elephantine was a force of Jewish military colonists; and another community nearby at Syene, known by the more general ethnic term Aramaeans, was probably a similar garrison. These colonies are known from a collection of fifth-century papyri in the Aramaic language. Under an overall garrison commander or *rab haila* they were organized into *degel*, "standards" or companies under a *rab degel*, and *mata*, hundreds. It has been suggested (Tuplin 1987a, citing Porten) that the *degel* was a thousand strong; this would fit the normal Achaemenid decimal organization, but this strength for a *degel* is not directly attested until after the Achaemenid period. There seem to have been at least four *degel*, perhaps more.

The garrisons' senior officers were Persians; one Syene garrison commander was called Waidrang, a Persian name rendered as Hydarnes in the Greek sources. *Degel* and *mata* units were known by the names of their commanding officers; and most of these are Iranian (Artabanu, Haumadata, perhaps Ravaka and Warizath) or Babylonian (Nabushalliu, Iddinnabu, Nabukudurri) names. One man, Dargman son of Harshin, was a Chorasmian. The rank and file at Elephantine are specifically called Jewish, and their names bear this out (Menahem and Ananiah, sons of Meshullam b. Shelomen; Yedoniah b. Hoshaiiah b. Uriah). Surviving names of Syene rank and file include Aramaic but clearly non-Jewish names such as Shamashgiriya, named for a Syrian sun god. Other recipients of rations at Syene have Egyptian names; they may be local support personnel such as "Psametik and his colleagues, the boatmen of the fortifications".

The documents describe the supply by boat of barley and beans to the garrison, at state expense; some documents mention the supply of clothing (in one case a striped coat, a woollen coat, a dyed cloak, and a word of uncertain meaning that may be "trousers"), but it is not clear if these were also part of the garrison's pay, nor if they were a military uniform.

may have inherited this Jewish garrison from the previous rulers. By the fifth century these men were engaging in commercial activities, buying and selling land, but they kept their military organization and even their families were reckoned as belonging to a *degel*. One document tells how the Elephantine garrison stayed loyal as the *degel* of the native Egyptian troops rose in rebellion around them, in 411 BC. In 408 the natives, allegedly with the connivance of the governor, destroyed the temple of Yahweh in Elephantine. The community may not have lasted much longer.

Finally, native Egyptian soldiers were raised. They were not simply conscripted peasants, but were *machimoi*, hereditary warriors from the traditional warrior castes, the *Hermotybies* and *Kalasirieis*. Herodotos says that "at their most numerous", which may mean before the Persian conquest, the Hermotybians numbered 160,000 men and the Kalasirians 250,000; independent Egypt in 351 BC fielded 60,000 *machimoi*. "None of them touch a trade of any kind, but all have a purely military education." They probably farmed, though, because each was granted twelve *arourai*, or about nine acres, of land. The Persians must have thought quite highly of the Egyptian warrior castes, since the marines on the Egyptian ships of Xerxes' invasion force were among the units picked to stay in Greece with Mardonios - apparently the only troops withdrawn from the fleet for this purpose. Egyptian troops also fought for Artaxerxes I against Cyrus at Kounaxa.



b

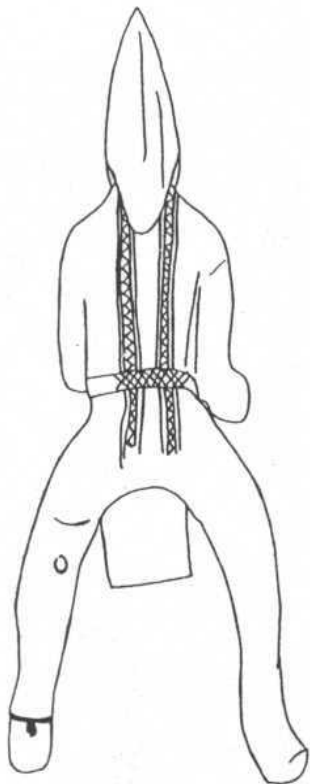


c

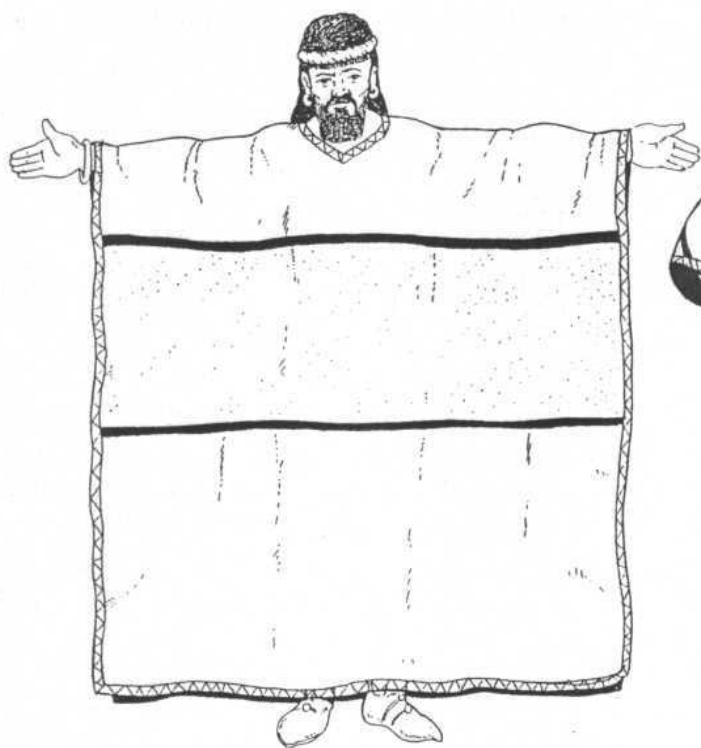
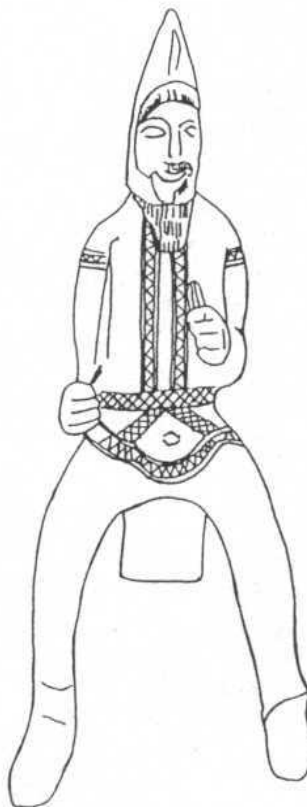




e



f



g



h



i

Persian and Median costume

Two styles of dress were popular amongst Persians. One was a long robe; the other consisted of long-sleeved tunic, trousers, and cap. The styles are identified as "Persian" and "Median" respectively. Herodotos (VII.62) says that in 480 BC, Median and Persian troops *both* wore tunic and trousers, which had been copied from the Medes by the Persians (see also I.135).

This interpretation cannot be quite correct; tunic and trousers were worn by all the peoples of Iran and their relatives on the steppes, while the "Persian" robe is also worn by the non-Iranian Kissians, or Elamites (Calmeyer 1988 suggests its origin in older Elamite costume). Herodotos himself says (I.70) that the Persians at the start of their conquests lived so simply that they dressed in leather, trousers and all, which makes it clear that the "Median" tunic and trousers was actually the Persians' own ancestral costume. The robe was a borrowing by the Persians from their Elamite neighbours as formal dress, and they continued to wear the more practical tunic and trousers for war.

The robe, the so-called "Persian costume", is worn by guardsmen in the glazed-brick reliefs from Susa, and by the King, guardsmen, nobles, officials and servants in the Persepolis reliefs. There has been some disagreement as to how the robe was made. But it is probably a simple rectangular sheet, with a slit in the middle for the head, long enough to reach to the ankles at front and back and wide enough to reach the wrists. It would be open at the sides and tied by a sash at the waist. The elaborate pleats going down to the ankle in illustrations are where the front and back edges overlap.

Jamzadeh (1987) suggests that the robe was shortened to make a practical combat dress, "pulled up in the middle, creating lines that curve up from the front towards the back of the skirt" with a sash passing between the legs and round the waist, creating an effect like loose trousers. But there is little reason to believe that the robe, shortened or not, was ever worn in battle. A few seals do show figures thus clothed fighting or hunting, but most of them represent the King; the robe may always be a sign of high rank, not serious fighting costume.

The lexicographer Pollux preserves two names for the Persian robe: "*kapyris*, a Persian tunic with sleeves", and the linen *kypassis*, a "small tunic". A fragment of Hekataios says that the Kissians (who at Persepolis wear the "Persian" robe) "wear as clothing the Persian *kypassis*". Possibly both names refer to versions of the "Persian" robe (Calmeyer, 1988), unless the "small" *kypassis* is actually the "Median" tunic.

The robed Persian nobles and some of the guardsmen at Persepolis wear a cylindrical, fluted cap; other guards wear a simple twisted fillet, as do the Susa figures; servants in the same robe wear a neatly wound headcloth. The fluted cap may be reserved for nobles; if so, the soldiers in the caps must be from the noble "spear-bearers", the men in the fillets from units of lower status - probably the Immortals.

The "Median" costume was, as Herodotos says, worn for war by both Persians and Medes - a view confirmed by numerous artistic sources. At Persepolis, this costume is worn by Median and other tributaries; it is also worn by guardsmen, officials and servants more or less alternately with the "Persian" robe. The Median tribute includes garments, and one of them brings a pair of trousers which clearly extend to cover the feet, a type of trouser-hose or leggings. Some Greek art, though, clearly depicts "true" trousers, ending at the ankle. Presumably both types were in use.

More than one tunic could be worn. Strabo (XV.3.xix) says of the Persians that "The dress of the commanders consists of three-ply trousers and of a sleeved double tunic reaching to the knees, the under-garment being white and the outer garment of various colours". The Persians on the Alexander sarcophagus (Figure 29) wear two tunics. Greek paintings of Persians often show tunic-sleeves and trouser-legs decorated in the same pattern, with the torso covered by a cuirass or a sleeveless over-tunic. In a few cases, though, Greek artists depict Persians in a sort of overall, or with what looks like a kilt or loincloth worn over the top (Figures 12d and e). These effects may just be mistakes by painters some of whom may never have seen a Persian, and who were unfamiliar with the type of tailored clothing represented by the "Median" costume.

Two styles of cap are worn with the "Median" dress at Persepolis. The first has a high domed crown, with a single ribbon or lappet hanging down at the rear. The Median guardsmen and officials wear this style; so does the leader of the Median tributary delegation, but his followers wear the second style of cap. This is the type Herodotos calls the *tiara*; it has a forward-tilted crown, sometimes stitched or folded into three peaks. It has three broad lappets, one covering the neck, and two at the sides. Median tributaries and servants wear the latter tied over the chin, covering their mouths; but a similarly-dressed delegation identified as Armenians have the two side lappets pulled up and tied at the back of the head. This second style of cap is by far the commonest style of Persian headgear in Greek art, and even in the art of the Persian empire beyond Persepolis. The peak often falls to one side rather than forward (see Darius' driver in Figure 3, or Figure 4b). The cap is sometimes shown with the side lappets tied under the chin or over the mouth, sometimes with them loose. Greek artists sometimes show more than three lappets, but this may be inaccurate.

A sleeved overcoat called the *kandys* was sometimes worn with the "Median" dress. It is usually seen draped over the shoulders like a cloak, with the sleeves hanging empty. Xenophon, in the *Kyropaidia*, says that Persian horsemen put their hands in the sleeves of the *kandys* when inspected by the King. (Some writers suggest that the word *kandys* meant the "Persian" robe, but Xenophon clearly describes it being worn with the "Median" tunic; for example, he describes Cyrus the Younger's retinue discarding the *kandys*, leaving them wearing tunics and embroidered trousers.)

The wealthier Persians would wear a great deal of gold. Herodotos says the native Persian troops "glittered with gold", and Xenophon says that some of Cyrus the Younger's companions wore necklets and bracelets. Gold bracelets and earrings can be seen on the guardsmen pictured at Susa, and torcs round the necks of officials in the Persepolis reliefs and Persian cavalymen on the Issos mosaic; examples survive from Persepolis and elsewhere.

Did Achaemenid troops wear uniforms? The guardsmen illustrated at Susa have their robes

coloured and patterned in two distinct styles (Figure 6a and b). These could be uniforms of two guards regiments, perhaps two "thousands" of the Immortals; but the effect may have as much to do with the Achaemenid artistic penchant for alternating motifs - compare the guardsmen in alternating Persian and Median dress on some of the Perspolis reliefs - than with any realistic depiction. Partial uniform is recorded once; Plutarch's *Life of Artaxerxes* says that at the battle of Kounaxa, all Artaxerxes' men wore white tunics over their armour, while Cyrus' rebels all wore red (Xenophon supports this by mentioning "cavalry in white cuirasses" in Artaxerxes' army). A purple *kandys* is often mentioned in the literature, but seems to be a badge of noble rank or official status rather than military uniform. A Babylonian document (Darius II 253:7) mentions the issue of clothes, sandals, armour, helmets and provisions to twelve horsemen of the royal army; being state issue, these clothes might have been uniform in style and colour.

Otherwise, there is little hint of uniformity. On the Issos Mosaic, for example, although the Persian figures all wear yellow caps, they show no other sign of uniform dress. Similar yellow caps are worn by the King and the guardsman on the "Darius Vase" (Figure 6g) and by riders in Persian dress on a probably Persian carpet from Pazyryk; but even these cannot be a universal military "uniform", since one source shows a soldier in a white cap (Figure 27d).

The Achaemenid kings themselves are shown in both "Persian" and "Median" costume. In court scenes at Persepolis and elsewhere (Figure 2) the King wears the long "Persian" robe. At Persepolis, where decoration to be painted on the reliefs was first scratched out on the stone to guide the painter, patterns of lions, chevrons and floral designs can be seen on the robes of Darius and Xerxes in several reliefs. The royal headgear varies but is often some form of crenellated crown.

The figure of Darius III on the Issos Mosaic (Figure 3) shows the royal version of "Median" dress. This corresponds quite closely with Xenophon's description of Cyrus the Great (*Kyropaidia* VIII.3.xiii): "coming out from the gates in his chariot, wearing the *tiara* upright,

and a tunic of purple half mixed with white (and this mixture of white no-one else is allowed to wear) and wearing on his legs loose trousers dyed scarlet, and a *kandys* all of purple, and also a fillet round his *tiara*. (His relations also had this mark of distinction, and they keep it to this day.)" The tunic on the mosaic is grey, but perhaps was originally purple, and has a broad white stripe down the front. The *Book of Esther* (8.xv) refers to Persian "royal apparel of blue and white". What looks like a crimson cloak on the mosaic may be the *kandys*. Quintus Curtius describes Darius III's cloak as gold-embroidered and decorated with golden hawks, perhaps referring to decorative plaques of thin gold sheet like some of the plaques in the Oxus Treasure.

The wearing of the *tiara* upright, as described by Xenophon and shown in the mosaic, was the principal mark of royal rank. When Bessos killed Darius III and proclaimed himself king, he adopted "the *tiara* with the point erect, in royal fashion" (Arrian III.25). The fillet, or diadem, worn round the *tiara* is not shown in the mosaic; it was another sign of rank, but was not confined to the Great King (see Figures 4c, d, and e). According to Curtius the royal diadem was blue spotted with white, though he later says Alexander the Great adopted one of purple and white in imitation of Persian style. Curtius also says that the royal belt was golden, that it was worn in the manner of a woman (probably knotted rather than clasped) and that the sheath of the *akinakes* dagger it supported was cut from a single gem!

The Iranian troops

Native Persian troops, men of the ruling nationality, provided the army's guard units, which have already been discussed above. The effective core of the army included other Persian units, and men of other Iranian nations equipped in similar styles. The subject nations of the empire provided troops of varying quality and of sometimes exotic appearance.

Early Achaemenid infantry

Herodotos (VII.61) describes the equipment of Median and Persian infantry: "They wore soft

caps called *tiaras*, multi-coloured sleeved tunics with iron scale armour looking like the scales of a fish, and trousers. Instead of *aspides* they carried *gerrha*" - that is, instead of the Greek round shields they had wicker shields - "with their bow-cases slung below them. They carried short spears, large bows, cane arrows, and daggers hanging from their belts beside the right thigh". This passage is a good starting-point for a consideration of early infantry, but it presents some problems.

For one thing, while each individual item in Herodotos' account can be confirmed from other sources, no artistic depiction, Greek or Persian, shows a single warrior carrying bow, spear and shield together. The guards shown in the reliefs of the Apadana at Persepolis, executed under Darius I, do indeed show spears, bows and shields, but never all together. Some carry spears and bows (those in Persian dress have bows and quivers slung over their shoulders; those in Median dress have large bowcases slung on the left hip, as Herodotos describes), while others carry spears and shields, but do not have bows (see Figure 6 and Plate 1).

While some of these guards carry shields, they are not Herodotos' *gerrha*. *Gerrhon* means a wicker shield; and Herodotos' descriptions of the battles of Plataia and Mykale describe a wall of *gerrha* as a barricade to protect archers, which implies a considerable size. The Apadana guards' shield is oval, with two small cut-outs giving a shape like the body of a violin, and a small central metal boss. The shield-face, both inside and out, is shown as smooth, indicating that it is not made of wicker, but of leather or leather-covered wood. It is much too small to be used in a barricade as Herodotos describes. (A modern reconstruction has Persian archers *kneeling* behind wicker bucklers the size of the Apadana shields, which merely shows how implausible it is to identify the Apadana "violin" with the *gerrhon*.)

The lexicographer Hesychios mentions the word *sparabarai*, which he says means *gerrhophoroi*, *gerrhon*-bearers; it must represent a Persian word *sparabara*, "shield-bearer". So the *gerrhon* was known as *spara* to the Persians. The true *spara* can be identified in both Persian and Greek art (see Figure 9).

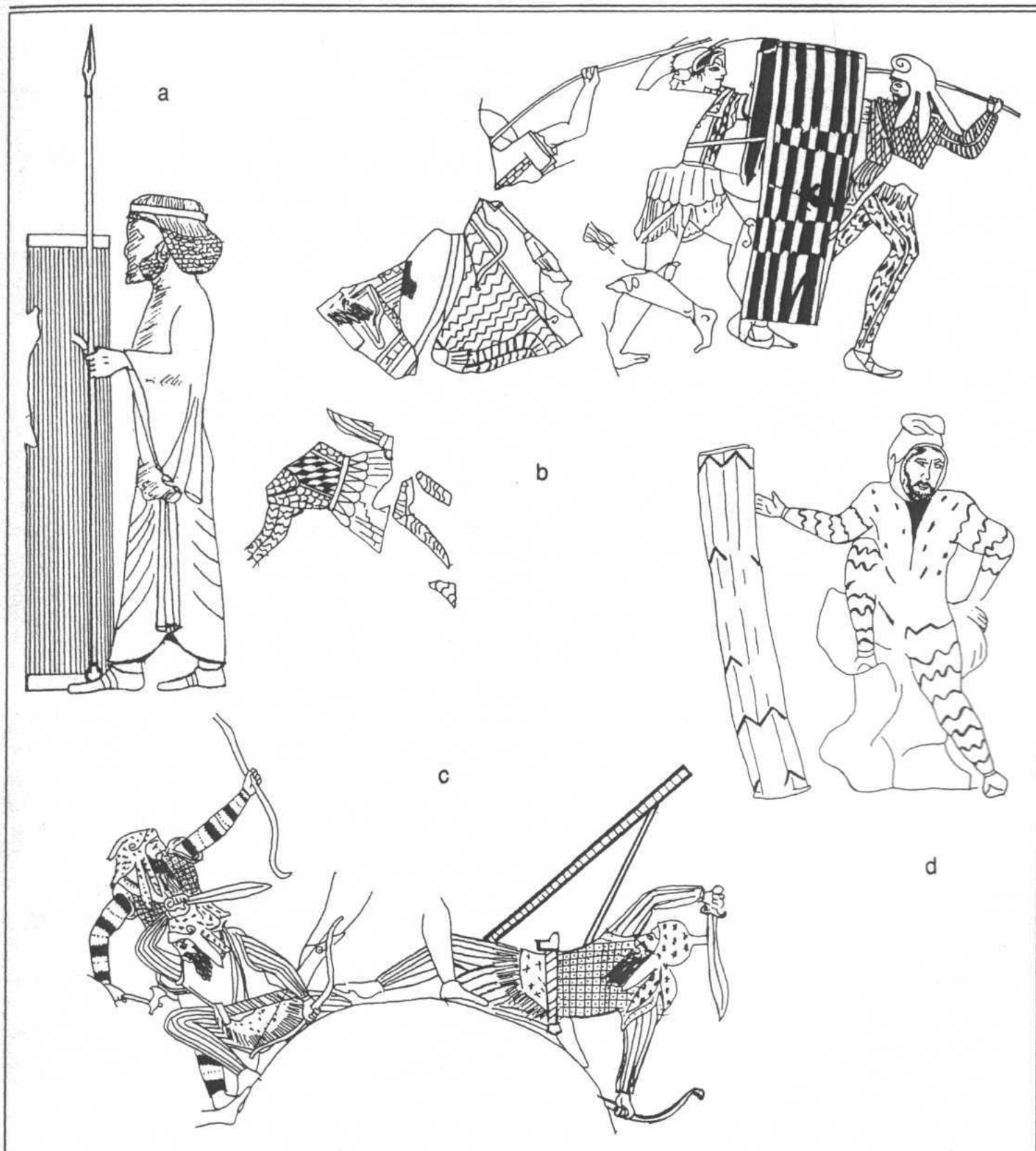


Figure 9: Sparabara - The characteristic large wicker shields of the Persian infantry are shown in both Persian and Greek art. (a) Guardsman from the door to the west guardroom of the Council Hall, Persepolis; a second figure behind him carries spear alone. Similar shield-bearers appear on other doorways. (b) Battle-scene from the "Oxford Brygos cup", perhaps specifically depicting the battles of 479 BC. At right, a sparabara with spear and diagonally-quilted cuirass; another spara is visible behind the archer second from left (note the sword-hilt in his right hand and his bow visible beneath his Greek opponent's shield), but it is not clear whose shield this is. (c) Archers in quilted armour, with a spara propped up behind the right-hand man; Basaggio cup, Rome, c. 470. The archers' caps are mottled in a style that may represent skin; perhaps this indicates that they are not Persians, but from an auxiliary contingent. There are no spearmen; either the sparabara has propped up his mantlet to fight with bow and sword, or else no sparabara is actually shown. (d) Seated figure from an Attic skyphos, c. 450.

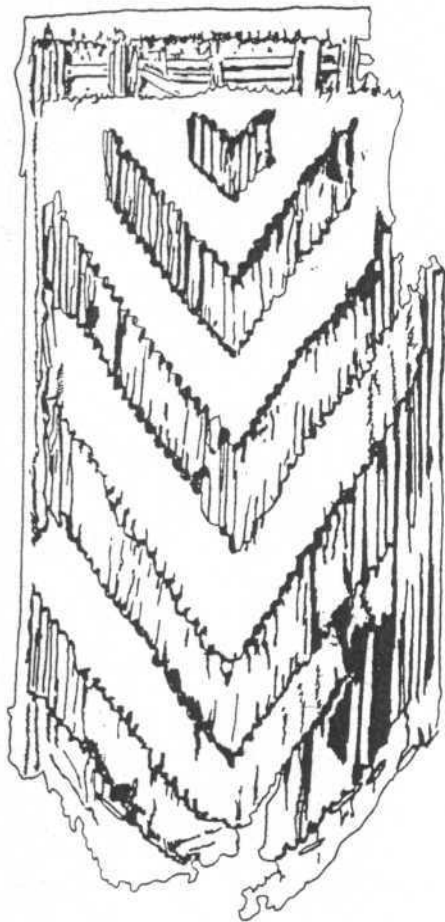
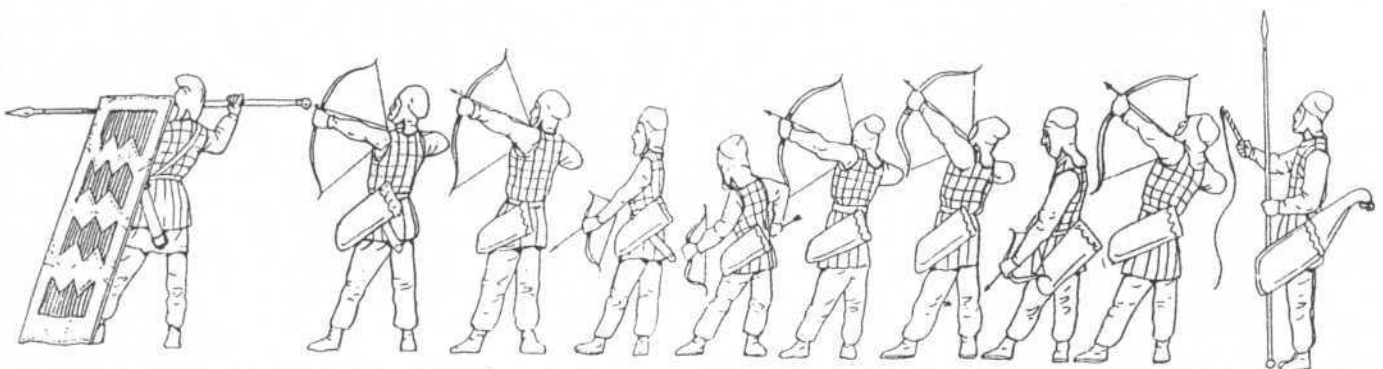


Figure 10: Sassanian Persian infantryman's shield of reed and leather, found at Dura and associated with the siege of about AD 255; similar in construction to the Achaemenid *spara*. This example (in Damascus museum) is only 1.06m tall; but one of two examples at Yale University Art Gallery, 1929.417, is 1.55m - about the size of the Achaemenid *spara*.

On the doorways to several buildings at Persepolis are carved pairs of guardsmen in Persian dress. The first carries a spear and a large rectangular shield made of vertical strips; the second carries spear only. Some Greek vase-paintings show the same shield, with patterns on its face. Surviving Sassanian Persian shields from Dura, dating from a siege of about 225 AD, complete the picture by showing how such shields were made, "of round wooden rods held together by thick leather through which they are inserted, making on each side triangular strips of "W" shape... the work was done in fresh leather, or previously soaked, and when dry gave to the whole great resistance" (Baur & Rostovtzeff, 1929). The leather of the Achaemenid *spara* might have been dyed, perhaps even in a uniform colour for each regiment, but the surviving Sassanian shields show no sign of any colour or decoration.

This, then, was the *spara* or *gerrhon* of which Persian infantry made their shield-walls. Men illustrated with the *spara* often carry spears, but not bows. Obviously, while holding up the *spara* to form a barricade, these *sparabara* could not shoot. This strongly suggests that, despite the description of Herodotos, men who carried the *spara* would *not* have a bowcase hanging beneath it; and also that only the front rankers would carry the *spara* at all.

Figure 11: A file of early Persian infantry, ten men deep. The first man is a shield-bearer with a spear, resting his shield on the ground to protect the archers behind him. Ranks two to nine are archers, with swords or axes but not spears or shields. Number ten is a file-closer, keeping the rest of the file in their places; his armament is hypothetical.



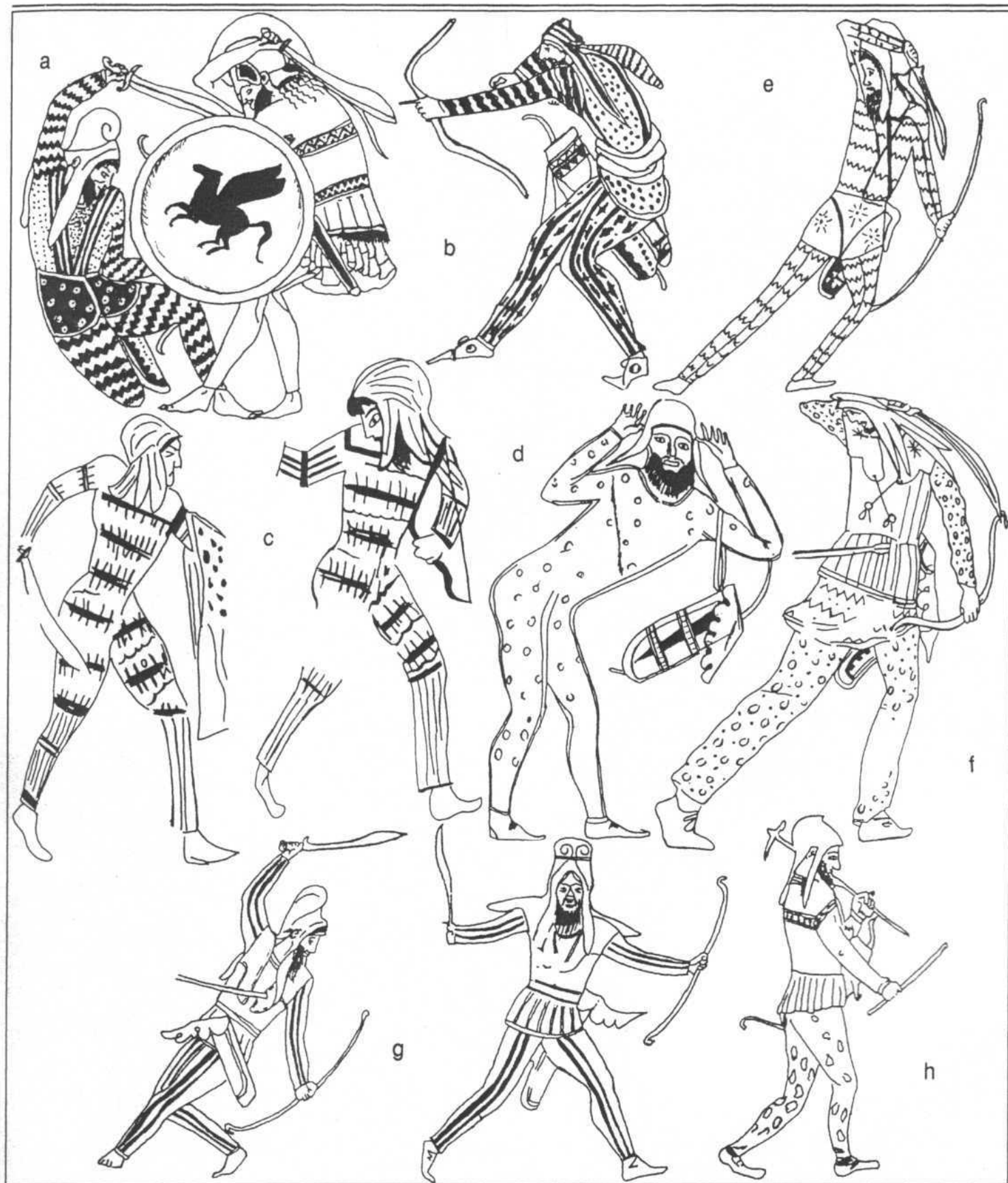


Figure 12: Persian archers, the men who formed the rear ranks of the infantry, from Greek art. (a) Archer with kopis sword and an unusual tunic or jerkin, fighting a Greek hoplite, from a cup by the Triptolemos Painter, perhaps 470s; (b) Archer from the outside of the same cup. (c) Two figures from an Attic alabastron, c. 480-470. The swordsman uses a cloak or an animal-skin as an improvised shield. (d) Persian (or Scythian; the cap is a restoration and might originally have been pointed) archer, with the caption "I am Eurymedon" - possibly commemorating the battle of 466. (e) Archer showing the "loincloth" effect, from an oinochoe of c. 460. (f) Archer with Greek-style cuirass and kopis sword. (g) Two similar archers from an Attic calyx krater, about 460. (h) This archer from an Attic oinochoe also wears a Greek-style cuirass, but has a sagaris on his shoulder.

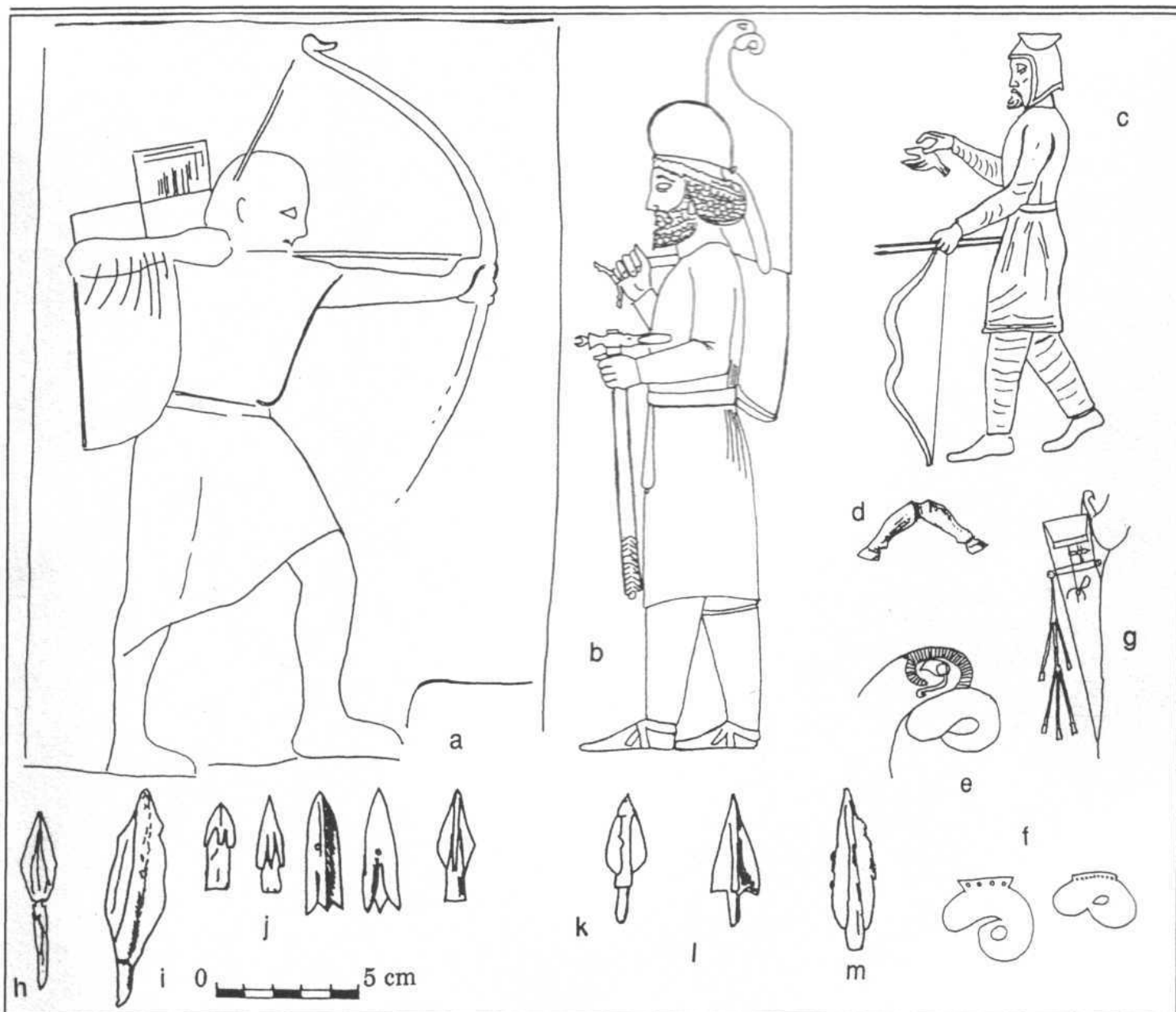


Figure 13: Persian archery equipment - (a) Relief of an archer with Persian bow and quiver - note the duck-head ends of the bow - from Gardaneh Galumushk in Fars. It may be late Achaemenid, or later. (b) The King's bow-bearer, in Median costume carrying a Median bowcase over his shoulder, from an audience relief at Persepolis. (c) Graeco-Persian chalcedony scaraboid showing an archer holding a bird. Contrast the recurved bow, perhaps a Median type, with the single-curved type of 13a. (d) Bronze strap-end in the form of a horse's legs, from Persepolis; an identical fitting is seen in 13b's right hand, at the end of the strap by which the bowcase is carried. (e) The tip of the king's bowcase, in the form of a bird's head. (f) Two similar bowcase fittings, from the garrison site of Deve Huyuk. (g) Detail of the Persian-style quiver, as carried by one of the Persepolis guardsmen; it is closed by a tied-down flap. (h) Bronze socketed arrowhead with a wooden foreshaft, which would be inserted into an arrowshaft of hollow reed; from Persepolis. (i)-(m) Arrowheads from Persepolis (after Schmidt 1957); (i) Iron, tanged; (j) Bronze, socketed, three-edged; (k) Bronze, tanged, two-edged; (l) Bronze, tanged, three-edged; (m) Bronze, socketed, two-edged.

The evidence for Persian infantry being organized in tens has already been discussed; in particular, at Plataia, once the Spartans had torn down the Persian barricade of *spara*, the Persians ran out "sometimes singly, sometimes in groups of ten men, more or less". So we can deduce that Persian infantry fought in files ten men deep, and that the leader of each file carried the *spara*. Sometimes file-leaders may

have had bows rather than spears, and propped up the *spara* rather than holding them; this is suggested by Figure 9c. Ration-tablets from Persepolis mention a *pascadathapatis*, "rear leader of ten", the file-closer or second-in-command of the file; Xenophon's *Kyropaidia* mentions a commander of five - the same rank?

Behind the wall of *spara* stood archers,

probably nine ranks of them as we have seen. Many fifth-century Greek vase-paintings show Persian archers, lightly armoured or not armoured at all, with bows and various hand-weapons but no spears (see Figure 12). These troops formed the bulk of the Persian infantry.

The use of shielded spearmen protecting ranks of archers was, of course, nothing new; such units had been the mainstay of Assyrian and Babylonian armies for centuries. Just before the Persian conquest the Babylonians may have been trying out more complex formations. One tablet, dating not long before the fall of Babylon (February 540 BC), reports an equipment inspection on a unit nominally of ten bowmen, though in fact only mustering eight; between them they had six bows, four wrist-guards, and six each of spears, swords, daggers and shields. The numbers of weapons do not fit a simple mix of spearmen and bowmen; it looks as if some men carried both spear and bow.

In the Achaemenid army, the Immortals were probably armed with both weapons. Their equipment was basically the same as that of the other Persian infantry - indeed, the best accounts of that style of fighting are of the Immortals fighting the Spartans at Plataia - but, since the guardsmen shown at Persepolis and Susa all have spears, the Immortals' archers as well as their *sparabara* probably carried spears in the field.

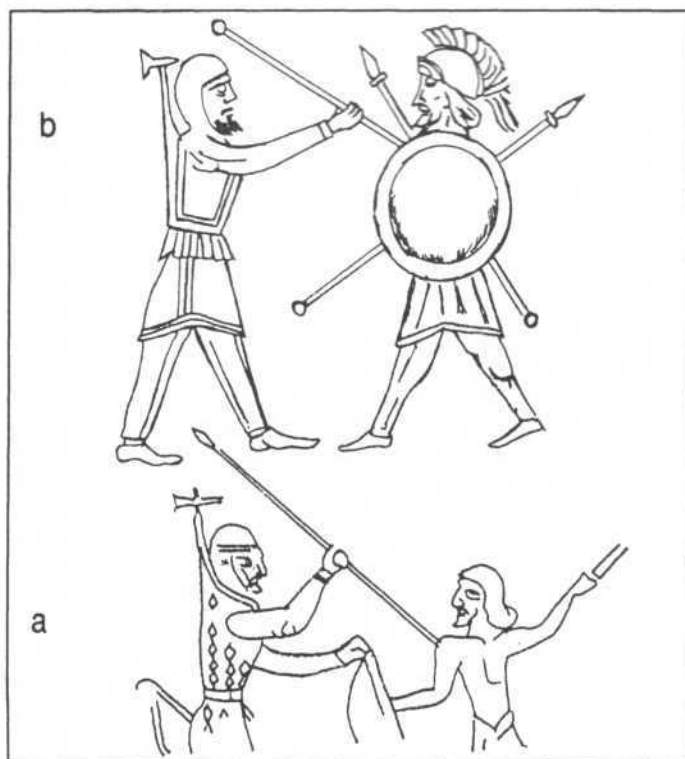
On the north door of the Hall of the Hundred Columns at Persepolis are carved several ranks of guardsmen. The topmost rank wear Persian dress with the fluted cap, suggesting that they are of the noble "spear-bearer" units, and carry spears and small "violin" shields; they are followed by rows of men, alternately in Persian and Median dress, armed with spears and bows. This scene corresponds closely with the suggested battle-formation of the Immortals - file-leaders carrying shields, and several ranks of archers armed also with spears - except that the small shield is carried instead of the *gerrhon*. Probably the small shield is simply a substitute for ceremonial duties; but possibly the file-leaders of the "spear-bearers" did carry the small shield, not the *gerrhon*, in action.

Greek writers described the Persian spear as short, implying that it was shorter than the

Greek hoplite's spear. The length of spears depicted in Persian art varies, chiefly because of the space available in individual sculptures; but most are little longer than a man's height, perhaps two metres.

Herodotos says (VII.62) that Persian infantry wore iron scale armour (see Figure 17); but he also attributes their defeat by the Greeks to their being unarmoured (IX.62), and Greek vase-paintings only seem to show one scale-armoured Persian. The rest wear Greek-style linen or leather cuirasses, quilted armour of distinctive styles, or no visible armour at all (though some may be thought of as wearing scale armour under their tunics). Now Herodotos says elsewhere (I.135) that the Persians adopted the Egyptian cuirass, and that seems to have been of quilted linen. Together, all this suggests that an iron scale cuirass was the ideal for Persian infantry, but that few in practice wore it, most wearing lighter non-metallic protection, or even none at all. The guards units were no doubt the best equipped; they may all have worn scale armour.

Figure 14: Seals showing Persian infantry - (a) wears a lozenge-patterned cuirass, perhaps quilted or a crude representation of scale; he has a bowcase at his hip, a spear, and an axe or sagaris somehow slung at the back. He resembles the reconstruction of the Immortals' combat dress in Plate 2C. His opponent is stripped to the waist and has sword or club and shield. (b) has a linen or leather cuirass; his opponent looks like a Greek hoplite.



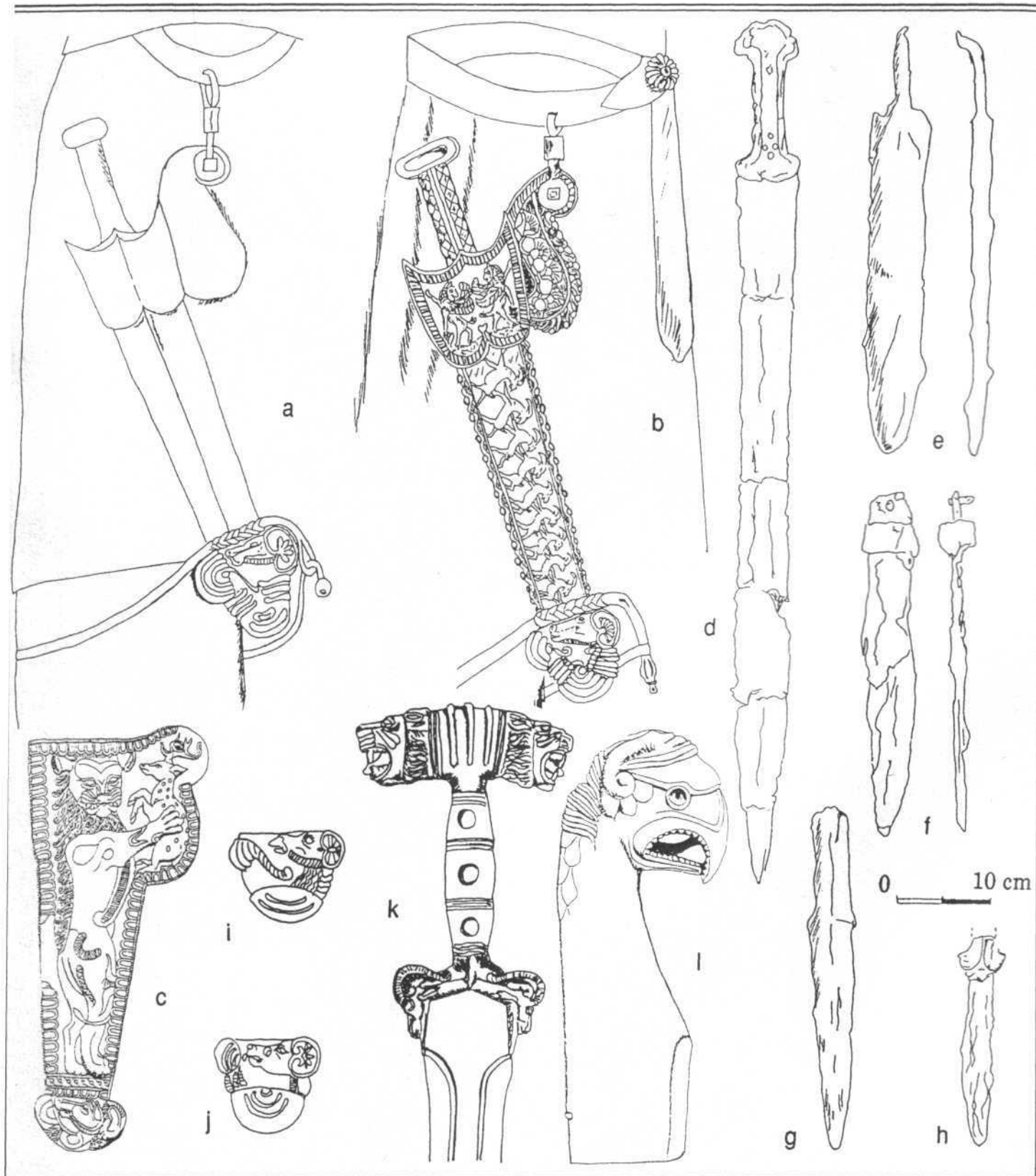


Figure 15: Persian swords and daggers - (a) Akinakes of a Median guard from the Persepolis reliefs (east face of the Council Hall). (b) Akinakes of the King's Median-costumed weapon-bearer (southern relief from the Persepolis Treasury), with heavily-decorated sheath. (c) Ivory akinakes-sheath decorated with a lion seizing a stag. The sheath is 27.7cm long, dated to the late sixth or early fifth century; from the temple of the Oxus river-god at Tachti Sangan, in modern Tadzhikistan or ancient Baktria. (d)-(h) Iron sword and dagger blades from Persepolis (after Schmidt 1957); (d) sword, with rivet-holes for fastening the hilt-plates, from the garrison quarters; (e) tanged blade; (f) blade with curved cutting edge, iron scabbard-mouth attached and hilt broken; (g) dagger with simple hilt and no pommel; (h) dagger with single-edged iron blade and bronze hilt. (i)-(j) Two scabbard-chapes from Deve Huyuk; (i) is bronze, (j) ivory. (k) Hilt of an all-gold short sword from Agbatana (in Teheran Archaeological Museum); (l) Ivory hilt for a kopis sword from the Tachti Sangan temple, 11cm long, fifth or fourth century.

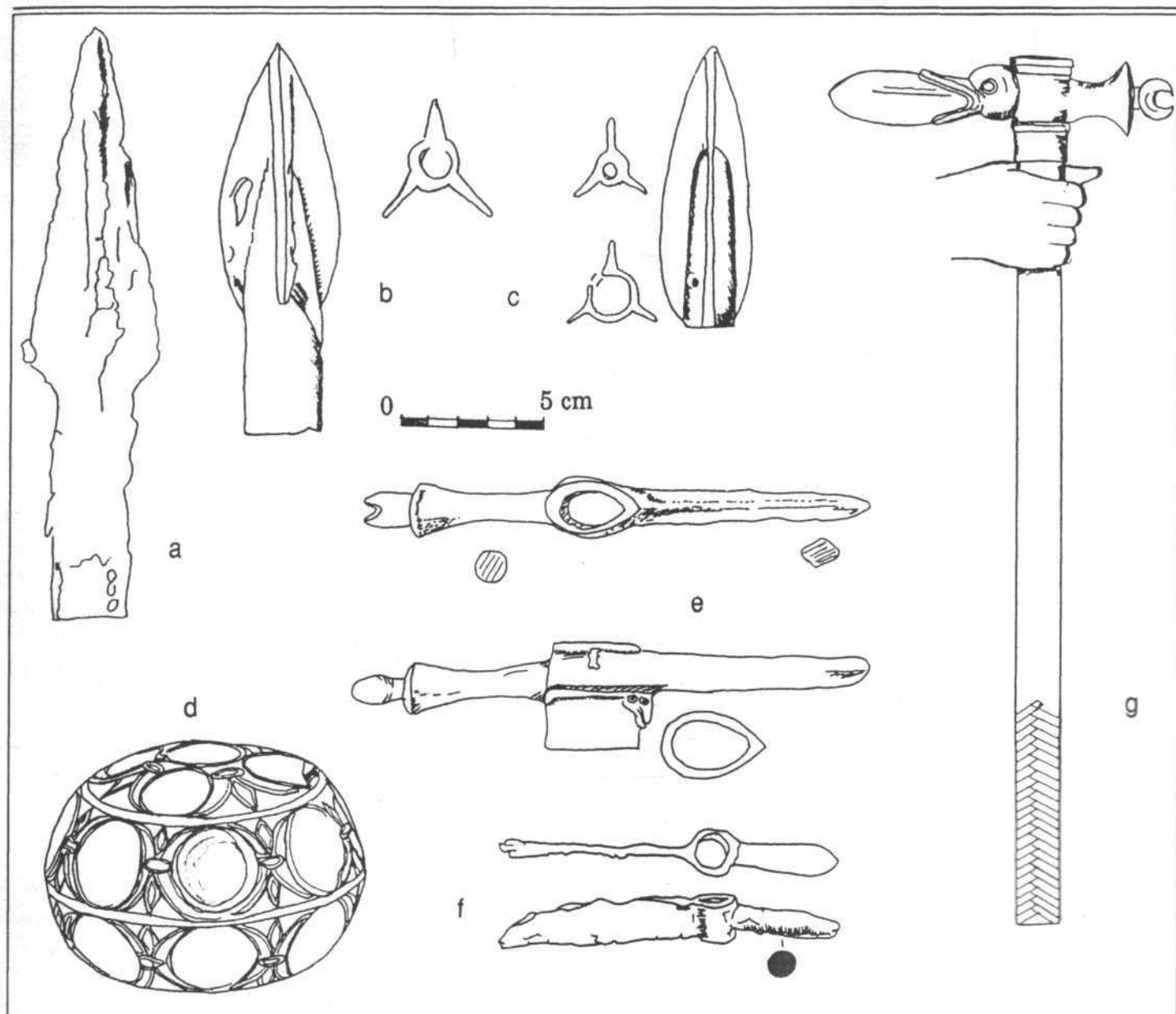


Figure 16: Persian spears and axes - (a)-(c) Spearheads from the Persepolis Treasury (after Schmidt 1957); (a) iron spearhead; (b)-(c) bronze three-edged javelin-heads. (d) Gold object, possibly an ornate spear-butt. (e) Bronze sagaris-head from the Persepolis Throne Hall. (f) Iron sagaris-head from Deve Huyuk. (g) Sagaris carved at Persepolis, held by the royal weapons-bearer, south relief of the Treasury.

Other troops in early Achaemenid armies were dressed and armed in the same style as the Persians; Herodotos cites the Medes, the Hyrkanians, the Kissians (except for minor differences of dress), and the Exile Islanders of the Persian Gulf. Except for the Kissians, who were close neighbours of the Persians, these are Iranian peoples. The Medes were virtually the Persians' partners in empire, so it is hardly surprising to find them armed in the same way and heavily relied on in battle. The Hyrkanians also had an important place in the Achaemenid military system; Xenophon compares their function with that of Sparta's *skiritai*, whose precise role is unfortunately obscure but who

were used as advance guards on the march and as pickets outside the camp.

Other, eastern, Iranian contingents are described as carrying bow and spear, without armour or shields. The Baktrian infantry, for instance, "wore headgear not unlike the Medes, and carried their native cane bows and short spears". The Areians carried Median bows, but were otherwise the same; so were the Parthians, Chorasmians, Sogdians, Gandarians, Dadikai and Sarangai. Some of these appear on the Persepolis reliefs carrying the *akinakes* dagger, to add to the resemblance to Median and Persian armament.

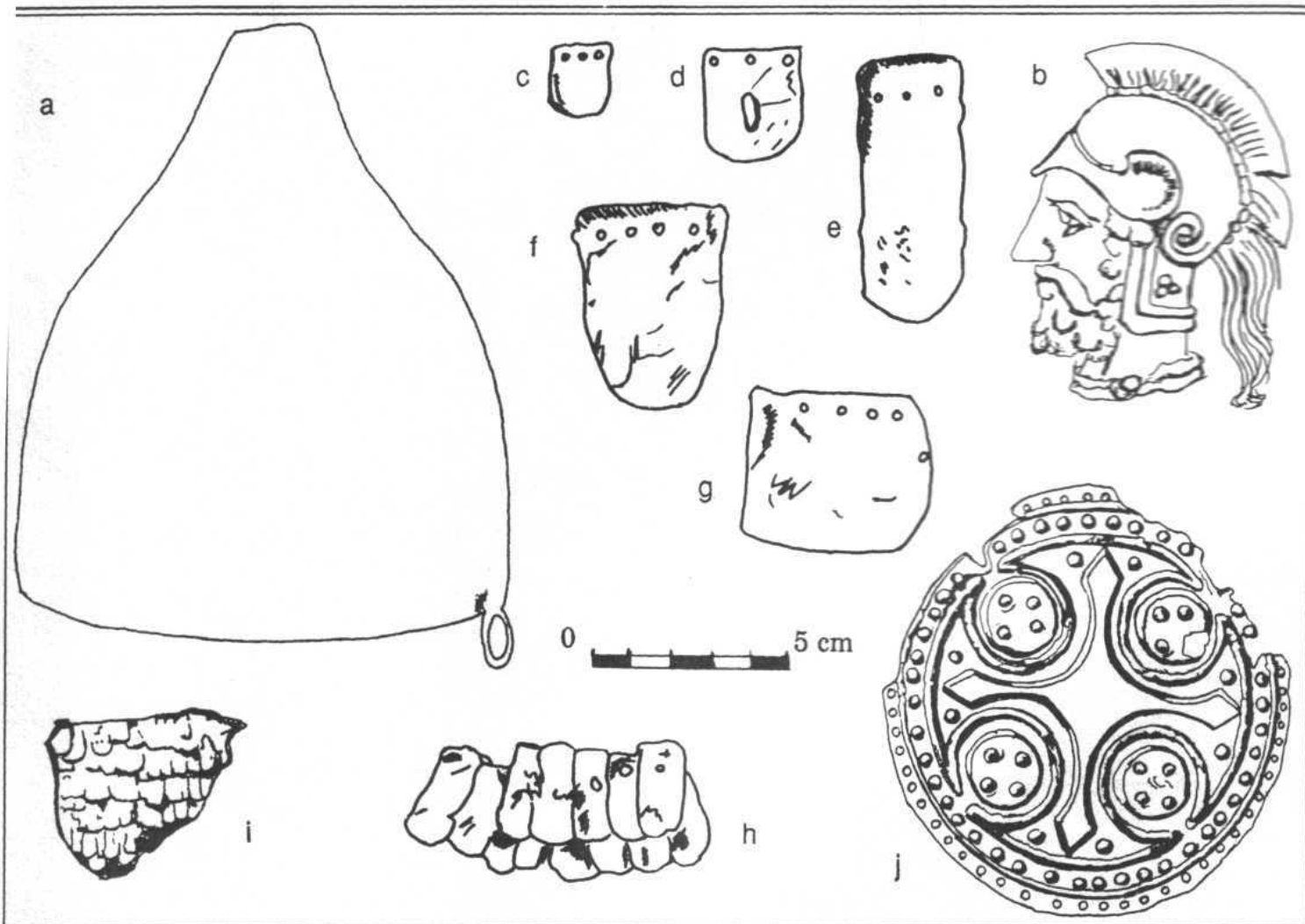


Figure 17: Persian armour - (a) Bronze helmet dedicated at Olympia by the Athenians, who took it "from the Medes", probably at Marathon. Figures 22a and 25a show Persian cavalry wearing similar helmets. (b) Coin of Datames, early fourth century, showing a Greek helmet of Attic type; Figure 22c shows a similar helmet, and see Plate 7B for another Greek type in Persian use. (c)-(h) Armour scales from the Persepolis Treasury (after Schmidt 1957); (c) iron covered in gold; (d) bronze with a raised knob in the centre; (e)-(g) iron; (h) cluster of iron scales, overlapping in their original positions. There seems to be no clear evidence for the overall appearance of Achaemenid scale cuirasses; the only representation may be the leftmost warrior in Figure 9b. His cuirass is similar to Greek types, but with triangular shoulder-pieces rather than the rectangular Greek style. (i) shows a Scythian iron scale shoulder-piece of this triangular shape (from kurgan 2, Volkovici Romny; after O Gamber, *Waffe und Rüstung Eurasiens*, 1978); a similar triangular piece of bronze on leather comes from Nymphaion in the Crimea (M Vickers, *Scythian Treasures in Oxford*, Ashmolean Museum 1979). The similarity suggests that Persian scale armour resembled Scythian styles, which usually have short scale skirts rather than Greek fabric pteruges - see Plate 2C, who has been reconstructed on this assumption. (j) Boss of a Persian "violin-shaped" shield, from Samos.

From time to time, modern authors express doubts that these troops could have lacked any defensive equipment: "Herodotos in fact does not mention shields or body-armour in speaking of them, but it is hardly to be supposed that they lacked all protection" (Cook, 1983, p102). The Baktrians at least fought in the line of battle at Plataia, for which they were rather ill-equipped if Herodotos' description is literally correct. It is tempting to suggest that these eastern Iranian contingents, who were armed much like the Persians, were organized as an auxiliary version of the Persian *sparabara*, issued with wicker mantlets to protect the front

ranks. But the only direct evidence for any type of shield seems to be the unidentified figure in Iranian dress shown in Figure 45a. If he is indeed from one of the east Iranian nations, they may have formed up with file-leaders armed with spears and round shields, with archers (perhaps also carrying spears) in the rear ranks.

Other groups from Iran and the Indian-Iranian border - the Kaspian, Parikanioi, Paktyes, Outioi and Mykoi - were archers, with cane bows and the *akinakes*, and wearing goatskin cloaks or jerkins.

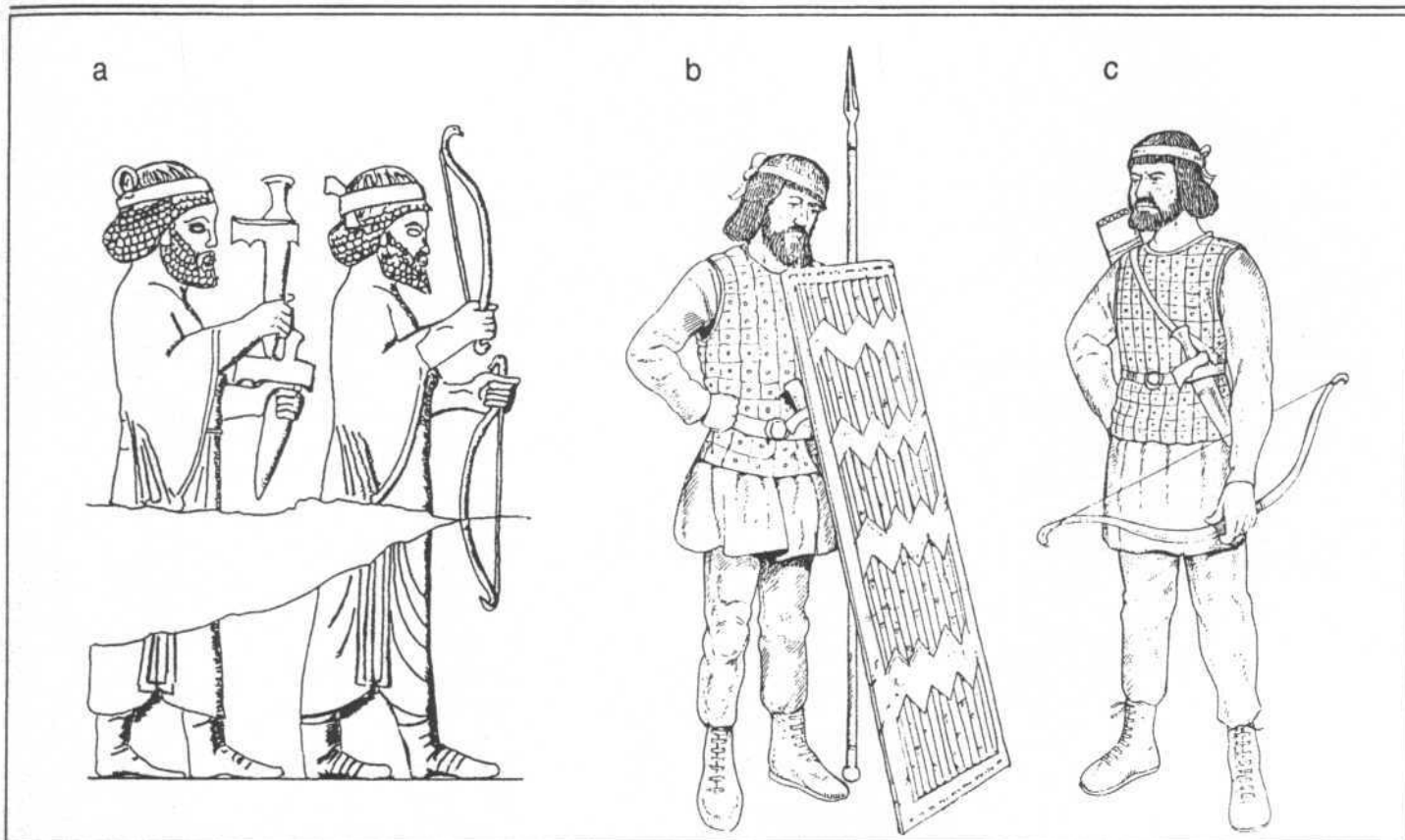


Figure 18: Kissians - The Greek term "Kissioi", derived from the ancient Kassites, indicates the people of Susa or Elam whom the Persians called "Uvja". (a) Kissians on the Persepolis Apadana wear "Persian" robes, but with a knotted headband, mitre, instead of the Persian cap, and with higher shoes. Their tribute includes bows and daggers of the types carried by Persian guards. Herodotos says that Kissian troops in 480 BC were dressed and armed as the Persians, but wore the mitre instead of the tiara; since the Persians wore the "Median" trousers and tunic to war, presumably the Kissians did, too. (b) and (c), therefore, show reconstructions of a Kissian shield-bearer and archer. Possibly they used Median bows and daggers in battle, like their Median costume, instead of the traditional arms brought as tribute.

Early Achaemenid cavalry

The Persian cavalry were "equipped like their foot, except that some of them wore helmets of hammered bronze or iron"; and Xerxes' Median and Kissian cavalry were armed the same. Although no Hyrkanian cavalry were present in 480 BC, they are mentioned in later armies, and were no doubt equipped, like their infantry, in Persian style. Xenophon's *Kyropaidia* claims that the Persians originally had few or no cavalry, and Cyrus the Great organized a cavalry force only after overthrowing the Medes. There seems to be no supporting evidence for this, but the Persian homeland is indeed poor cavalry country and the fact that Cyrus resorted to camels against the Lydians may argue that his cavalry arm was still weak. In any case, by the time of the Greek wars, Persian cavalry was numerous and effective, and an essential part of the military system.

Herodotos' description is borne out by artistic depictions of cavalry using both spear and bow.

It is not entirely clear whether early cavalry carried the same thrusting spear as the infantry, or the javelins that are described for later cavalry. Herodotos' battle descriptions mention arrow and javelin fire, not cavalry spears; but one representation (Figure 21a) shows a thrusting spear, and the later list of Gadal-Iama's equipment includes two heavy spears. Perhaps both weapons were used by different units, or according to personal choice. The *kopis* slashing sword is also illustrated in Figure 21a. Later, in Alexander's battles, we also hear of Persian cavalry using axes.

As well as helmets, Herodotos implies that cavalry wore the scale cuirass. The Persian cavalry commander at Plataia, Masistios, wore his gilt scale cuirass under a tunic; this custom would explain why armour is not shown in art. Probably more cavalry than infantry would wear scale armour, since they were of higher status; but at least one illustration shows Greek-style linen armour (Figure 21c).

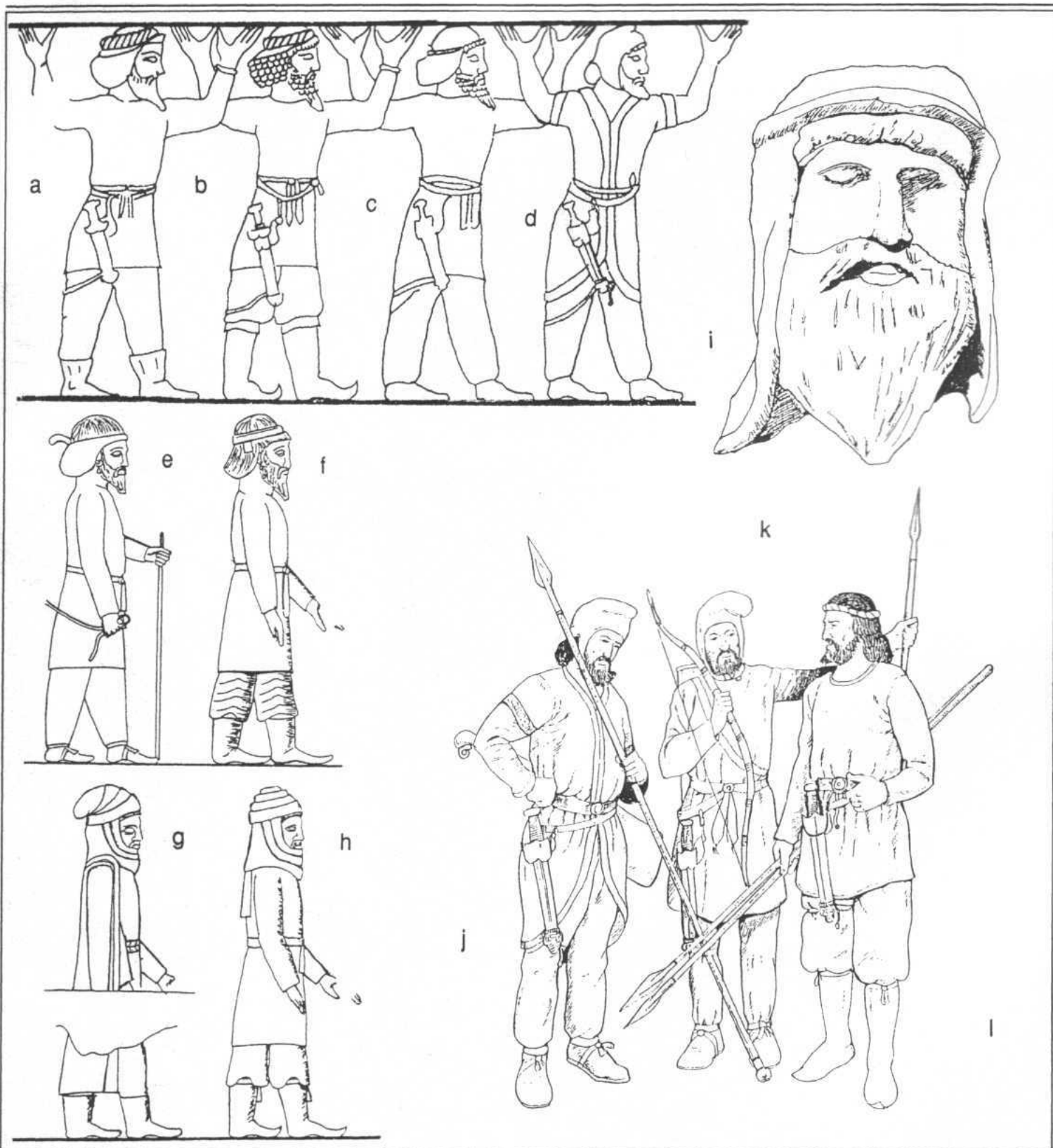


Figure 19: East Iranians - (a)-(d), throne-bearers from the Persepolis royal tombs. (a) is a Parthian, from tomb II; (b) Areian, tomb VI - Arachosians and Sarangians wear the same costume; (c) Baktrian, tomb II - his hair seems to be caught up in a bag, with a string at the top; (d) Sogdian, tomb VI - the Chorasmians wear the same costume. (e)-(h) Tributary figures from the Apadana at Persepolis; (e) delegation 13, identified as Baktrians because the hair is gathered in a bag like 19c; (f) delegation 15, perhaps Parthians (compare 19a); (g) the leader of delegation 4 - his followers do not wear the kandys; (h) delegation 7. These last two have the baggy trousers and high boots of the Areian, Arachosian and Sarangian throne-bearers, as in 19b; Schmidt (1970) identifies them as Areians and possibly Arachosians respectively; Walser (1966) cites Herzfeld's exactly opposite identification, and is himself unable to choose. (i) Bust of a Baktrian noble, in a white cap (the top is missing), from the Tachti Sangan Oxus temple; of Hellenistic date, third or second century. (j) Sogdian or Chorasmian infantryman, dressed as the Persepolis throne-bearers and equipped as described by Herodotos. (k) Baktrian infantryman, as described by Herodotos. He has a cap similar to the Median style, and a cane bow; the style of bow and quiver is hypothetical. (l) Arachosian cavalryman, late fourth century, dressed as the Persepolis throne-bearers and armed with javelins.

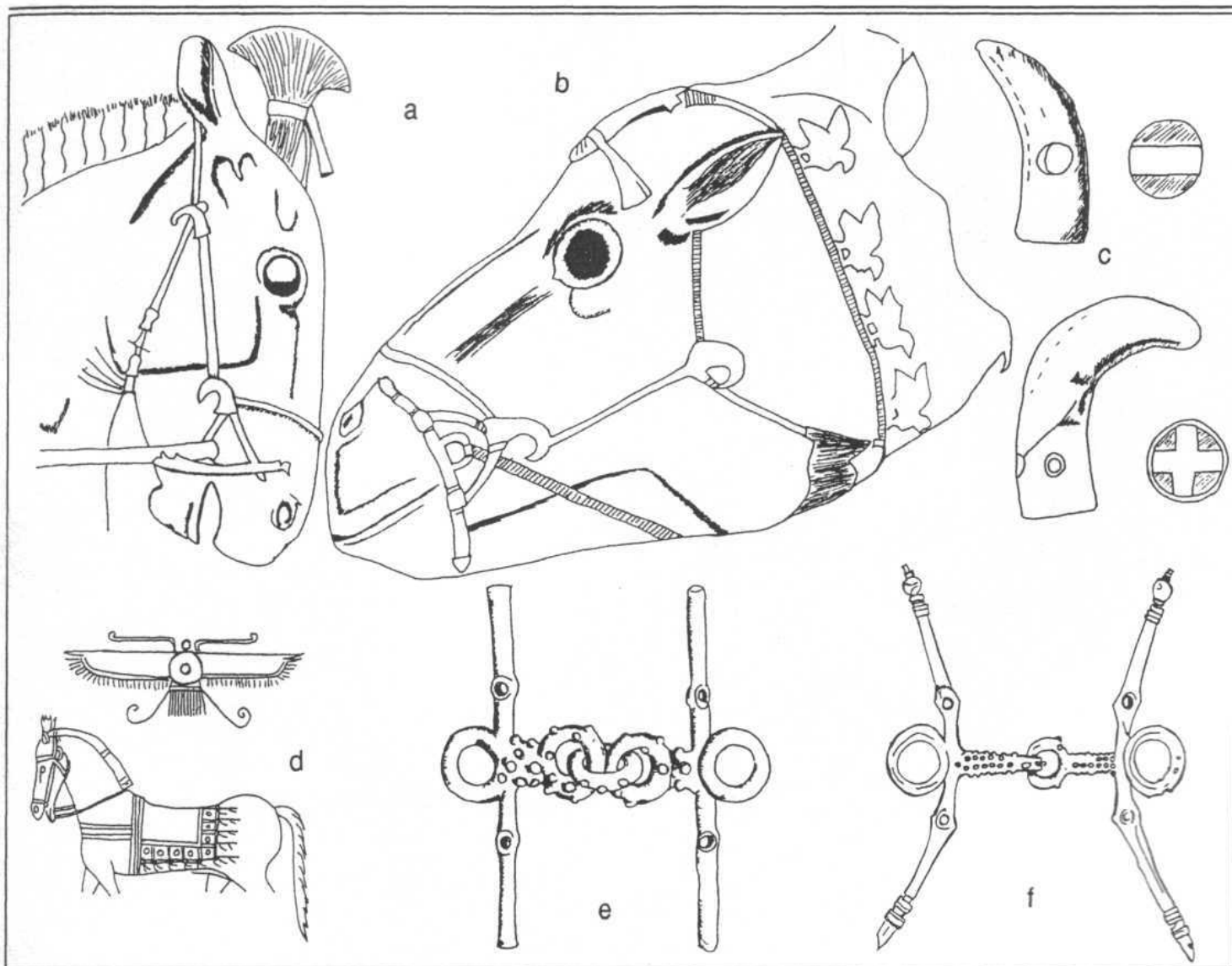


Figure 20: Persian horse-furniture - (a) Horse's head from the Persepolis Apadana sculptures; note the forelock, typically tied up as a plume. (b) Achaemenid rhyton shaped as a horse's head. (c) Tusk-shaped strap-junction, from Persepolis, as shown in use in 20a and 20b. Examples survive in stone, horn and bronze. (d) Horse on a "Graeco-Persian" seal - perhaps Anatolian work. (e), (f) Two styles of bronze bit, from Persepolis.

Included in the Persian contingent in 480 BC, says Herodotus, was a body of Sagartians - a nomadic but ethnically Persian tribe, mentioned as "Asagarta" in Persian inscriptions - who wore no armour and carried no weapons except for a dagger and a plaited leather lasso, which they used to entangle an enemy. The use of the lasso was, it is true, common among nomad cavalry in later centuries, but it was not usually the only weapon; these colourful cavalry are not mentioned in battle descriptions, and it is unlikely that horsemen so poorly armed were a serious part of the Achaemenid army. Perhaps one of Herodotus' informants saw Sagartian horsemen at some sort of sport, and extrapolated their battle tactics from this, whereas they would actually have added more conventional weapons in combat.

The eastern Iranian cavalry contingents in Xerxes' army are all said to be equipped like their infantry; that is, as unarmoured archers. These were the Bactrians - who had spears as well as bows - the Kaspians, and the Parikanioi.

Later cavalry developments

After the Greek wars, Persian cavalry developed new styles of weapons and equipment. One change was the decline, in the western provinces the virtual disappearance, of cavalry archery. Gadal-Iama in 422 BC still requests arrows; but Xenophon's numerous writings on cavalry, particularly the descriptions based on Cyrus the Younger's bodyguard in 401 BC, mention only javelins.



Figure 21: Early representations of Persian cavalry - (a) Cavalry from a painted sarcophagus from Klazomenai, 500-475 BC. They have been identified as Scythian, but the caps are rounded rather than pointed, and most of them use long versions of the *kopis* sword, not a weapon associated with Scythians. (b) Two Persian mounted archers, from the same cup as Figures 12a and 12b. (c) Cavalryman with Greek-style cuirass on a red-figure kylix from Orvieto. (d) Relief from the temple of Athene Nike on the Athenian Acropolis, about 425 BC. A Greek hoplite and a Persian cavalryman, bowcase at his hip, fight over a fallen Persian - perhaps representing the fight over the body of the cavalry commander Masistios, at Plataia.

Xenophon thinks highly of these Persian *palta* javelins. His *On Horsemanship* recommends, rather than a long spear, "two *palta* of cornel-wood. For the skilful man may throw one and can use the other in front or on either side or behind. They are also stronger than the spear and easier to manage" (XII.12). In the *Hellenica* (III.4.13-14) he describes an encounter between Greek and Persian cavalry near Daskylion in 396, when the Persians fought successfully with their cornel-wood javelins while the Greek spears broke too easily; this may be the very action which formed Xenophon's views on cavalry weaponry.

When they faced Alexander the Great's Macedonian Companion cavalry, the Persians saw that the long Macedonian thrusting spear had an advantage over their own lighter *palta*; Arrian (I.15) records this as one reason for the Macedonian success at the Graneikos. Diodoros records that Darius III, in his preparations for Gaugamela, equipped some of his troops with longer swords and spears than before; this must mean that he re-equipped some of his cavalry with Macedonian-style lances. The Macedonian spear, like the Persian javelin, was made of cornel-wood; although we do hear of it breaking in action, it was perhaps less likely to do so than the flimsy earlier Greek weapon.

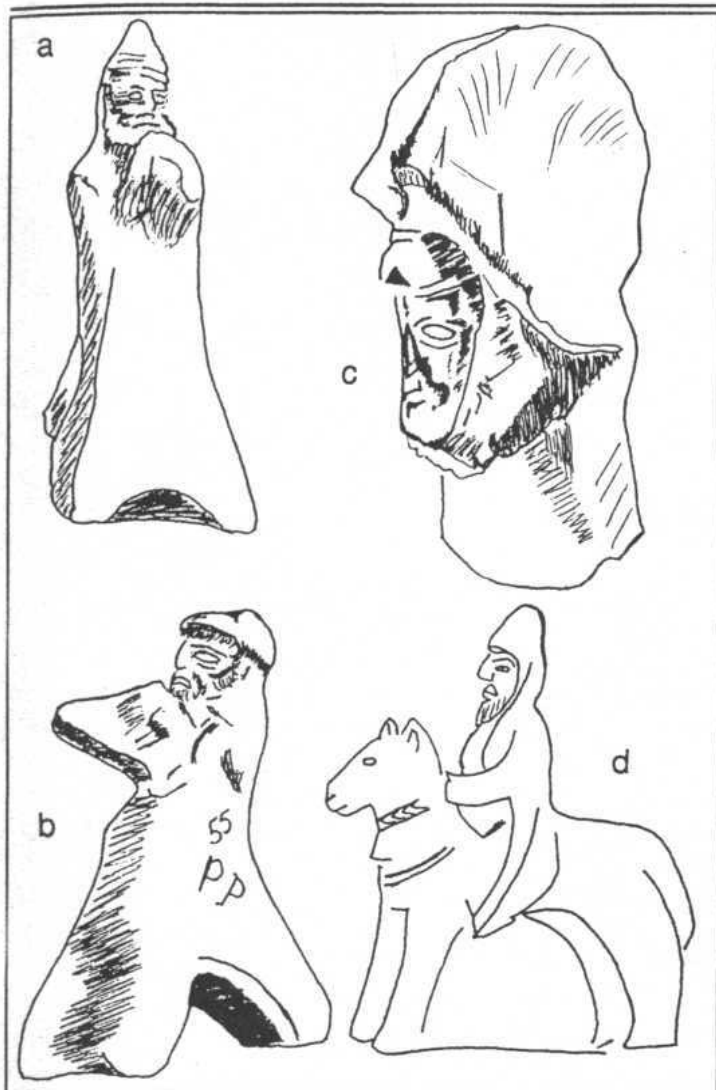


Figure 22: Figurines of cavalry - (a)-(c) are from Neirab in Syria (B Carrière and A Barrois, in Syria VIII, 1927); (a) cavalry figurine in conical helmet; (b) cavalry figurine in Persian cap; (c) head in Greek-style helmet. (d) After Rostovtzeff (1935), origin unknown.

Meanwhile, some Achaemenid cavalry adopted much heavier armour, including partial armour for their horses. Seventh-century Assyrian cavalry are illustrated with textile horse-armour, and even earlier there is evidence for chariot-horses being heavily protected in bronze scale. But there seems to be no direct link between these defences and the emergence of Persian horse-armour in the later fifth century.

Herodotos says that Massagetai cavalry horses, at their defeat of Cyrus the Great in the late sixth century, wore bronze breast-armour; and the later Persian heavily-armoured cavalry were inspired by this Saka model.

The equipment requested by the Babylonian colonist Gadai-Iama in 422 BC is sometimes

regarded as the first evidence for Persian horse-armour. Cardascia (1951) gave a translation of the text which included an iron caparison for the horse and leather armour for the rider. But an alternative interpretation suggests that the iron armour was for the rider, not the horse; the qualifying term *sa sisê*, which would be expected for horse armour, is absent, implying that the reference is to rider's iron armour - see Plate 6A. (Cook (1983); and Nigel Tallis, *pers. comm.* based on W Ebeling, "Die Rüstung eines babylonischen Panzerreiters" (*Zeitschrift für Assyriologie*, 1952.) So Gadai-Iama's equipment is a late example of the traditional style of Persian cavalryman - with spear and bow, with iron body-armour, but on an unarmoured horse.

In that case, the first recorded use of horse-armour is that of Cyrus the Younger's guards, described in Xenophon's *Anabasis*. These 600 horsemen "were armed with cuirasses, and thigh-pieces (*parameridia*). They all wore helmets except for Cyrus, who went into battle bare-headed. All their horses had armour for the forehead and breast; and the cavalry also carried Greek sabres" (I.8). They also carried javelins, but bows are not mentioned. In the *Kyropaedia* (VII.I), Xenophon describes Cyrus the Great's guards, a picture clearly borrowed from the real armament of Cyrus the Younger's men. He adds that all the armour was bronze, the helmets had white crests, and the side-pieces (*parapleuridia*) of the horse-armour also served as thigh-pieces for the riders.

These combined thigh- and flank-protectors are illustrated on a lost monument from Yeniceköy near the Persian satrapal capital of Daskylion (Figure 25a), and on the Lykian sarcophagus of Payava (Figure 43c). They seem to be attached to the horse or to the saddle. Though Xenophon (whose *On Horsemanship* recommends them to Greek cavalry) says they were bronze, it is unlikely that they were single pieces of bronze plate, since no pieces of bronze plate armour of anything like this size are known. More likely they were made of bronze scales or small plates on a cloth or leather backing; to judge from the illustrations they may have been attached to a rigid frame. A Lykian tomb-painting, perhaps of the 470s (Figure 43a), shows what may be an early version of this defence, attached to the saddle and covering the rider's knees.



Figure 23: Later Persian cavalry - (a) Persian cavalryman in sleeveless over-tunic, fighting Greek hoplite and archer, from a mid-fourth century Attic red-figure hydria. (b) Persian cavalryman and fallen infantryman with crescent shield fighting Greek hoplite, Attic red-figure pelike of similar date. (c) Early fourth-century tombstone from Yalvizdan in Lykia; cavalryman in Persian dress triumphant over a fallen nude hoplite (not shown). He has a true cloak rather than a kandys, and a leather or linen cuirass perhaps with a metal plate on the chest. He might be a native Lykian or an Iranian. (d) and (e) Cavalry figures from the Issos mosaic; they are reconstructed as Plate 8B and 8C. Note the distinctive hilt of 23d's sword, and 23e's cuirass.

Another piece of armour that may possibly have been worn by some of the heavily armoured cavalry is a guard for the bridle-arm, known as the *cheir* or "hand" in Greek. Xenophon's *Kyropaedia* ascribes this defence to scythed-chariot drivers, though not to cavalry, and in *On Horsemanship* he recommends it for Greek cavalry; in this latter work, written in the 360s,

he describes the *cheir* as "newly invented", so it may conceivably have been added about this time to the equipment of the heavily-armoured cavalry. However, it is never mentioned in accounts of Achaemenid cavalry equipment, and we have no direct evidence that they used it (see Figure 25).

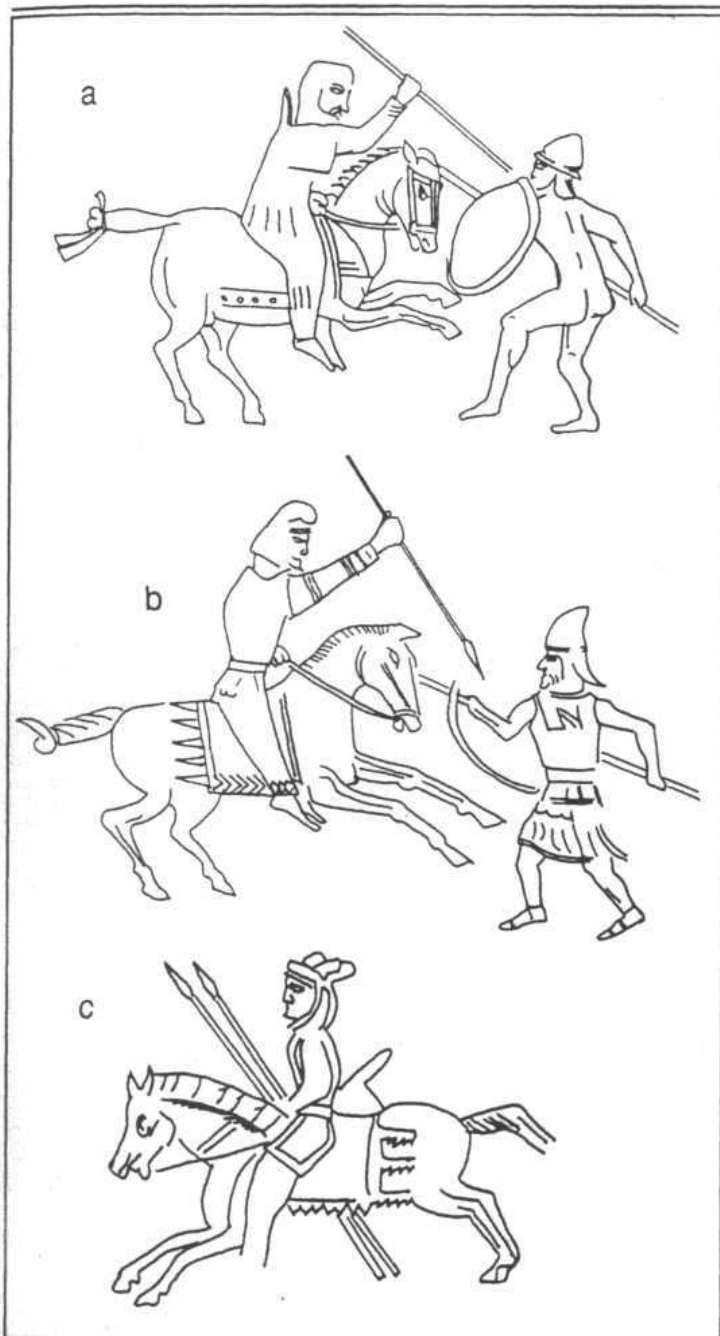


Figure 24: Persian cavalry on seals - (a) Cavalryman in cuirass - the neck-flap, the rear of the shoulder-yoke, and the pteruges below the waist are visible - fighting a nude Greek hoplite in a conical pilos helmet. Note the horse's characteristic knotted tail. From a "Graeco-Persian" seal, probably fourth-century Anatolian work under both Greek and Persian influence. (b) Cavalryman with no visible armour, fighting an infantryman in Greek-style cuirass holding a spear in both hands - perhaps a Macedonian pikeman, though his headgear looks like a Thracian cap. Also from a "Graeco-Persian" seal. (c) Horseman from a chalcedony intaglio thought by Rostovtzeff (1937) to be of Parthian date, because its "dry and flat but vigorous" style contrasts with the late Achaemenid "Graeco-Persian" style; but perhaps it could be a late Achaemenid provincial style, from an area under less Greek influence. The rider carries two spears and has a bowcase on the far side of his horse.

Cavalry on armoured horses continued in use until the end of the Achaemenid period; Curtius

describes some of the Persian cavalry at Issos with their horses protected by rows of linked armour plates, *lamnae*; and at Gaugamela Arrian describes the Massagetic cavalry on the Persian left as riding armoured horses.

The vast bulk of later representations, however, still show unarmoured horses, and clearly the horse-armour was confined to a minority: some picked Persian units like Cyrus' guards, some of the Massagetai and probably the Baktrians fighting alongside them at Gaugamela. The artistic representations are concentrated in Anatolia, so no doubt some cavalry from that region had heavy equipment; some Armenians and Kappadokians were deployed on the Persian right at Gaugamela in a position corresponding to the Massagetai on the left, so they may have been similarly equipped.

Most, if not all, Achaemenid cavalry fought without shields - as did many other contemporary cavalry, notably those of the Greeks, Thracians and Macedonians, though Scythian cavalry used a variety of shields, and some Saka cavalry used shields of cane and leather (see Figure 32r). No Achaemenid illustrations (with one possible exception, discussed below) show cavalry shields. Herodotos' description of Xerxes' cavalry as armed like the infantry might imply the same *gerrhon* shield as the infantry. But this is too much weight to put on an indirect implication, especially since the big wicker *gerrhon* which the infantry carried is far too bulky for a cavalryman's shield. Given that early art shows cavalry shieldless (see Figure 21), we can take it as established that the original style of Persian cavalry equipment did not include any type of shield.

This situation may have changed; while most art continues to show shieldless cavalry, right down to the fall of the Achaemenids, Sekunda (1989) suggests that the portrayal of shielded Amazon cavalry in Greek art from the mid-fifth century reflects a change in Persian equipment. But shielded Amazon cavalry do appear occasionally before this (see Dietrich von Bothmer, *Amazons in Greek art* (1987) plates LXIII.5 and LXX.1), and Amazon equipment is such a blend of Greek, foreign and imaginary styles that it is almost worthless as evidence.

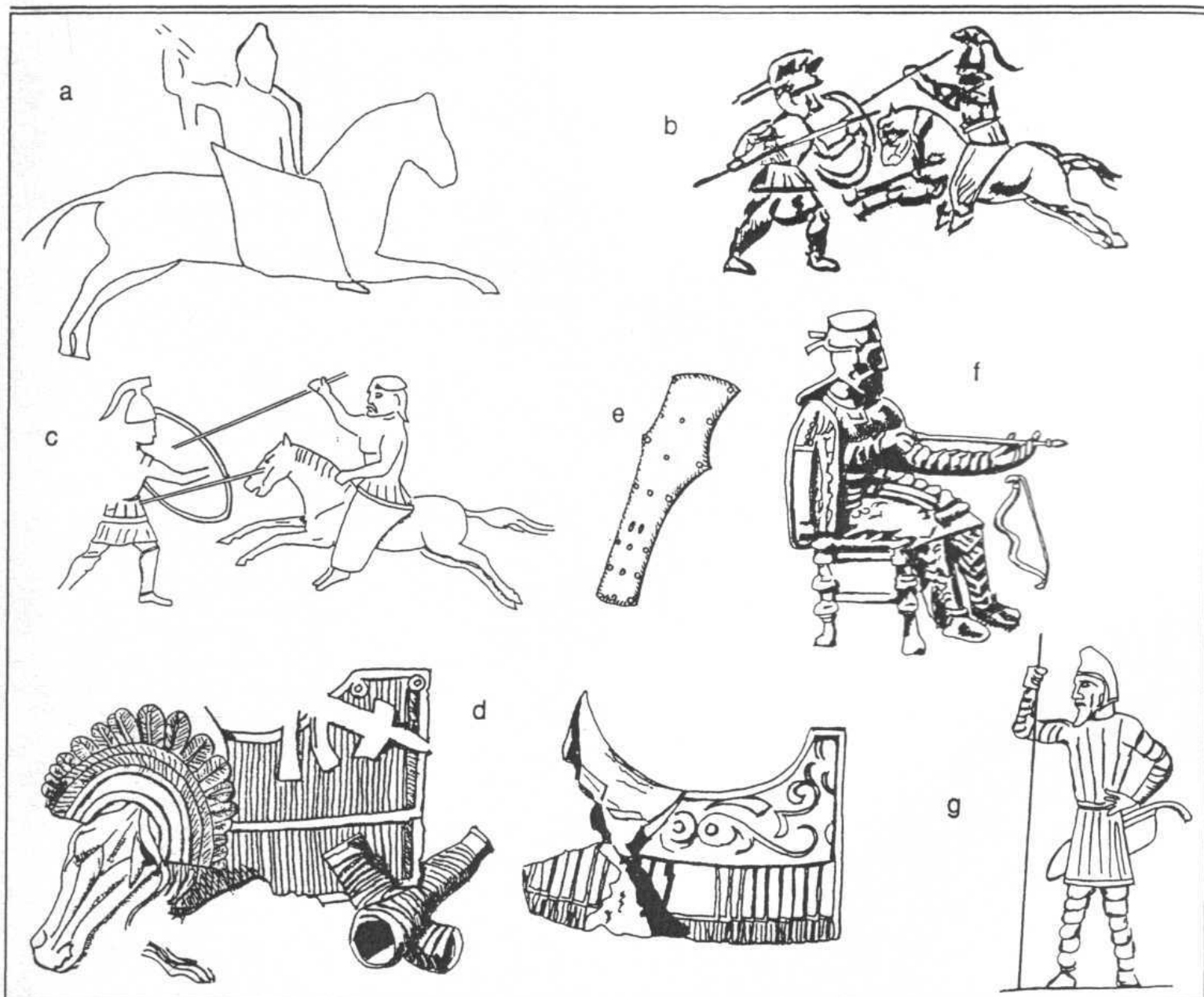


Figure 25: Heavily armoured cavalry - (a) One of three riders from the lost Yeniceköy relief, with conical helmet and large parapleuridia. The outline by the bridle-arm has been interpreted as a shield. (b) Achaemenid cylinder seal, showing a cavalryman with crested pilos helmet and parapleuridia fighting a Greek hoplite. (c) "Graeco-Persian" chalcedony gem; horseman with cap and parapleuridia fighting Greek hoplite. While these sources show the parapleuridia, none seems to show Persian horse-armour; (d) shows Hellenistic equipment from the late third-century Pergamon reliefs. From left to right, bronze plate horse's head-armour with a transverse feather crest; horse's breast-armour of narrow bronze lamellae; two tubular laminated arm-guards; horse's breast-armour of embossed bronze or leather. The lamellar piece may be a survival of the Achaemenid horse-armour of linked laminae mentioned by Curtius; the arm-guards are the cheir described by Xenophon. (e) Scythian bronze plate horse's head-armour, a possible alternative to the Greek style for Achaemenid cavalry. (f) This coin of Darius I has been interpreted as showing the cheir in Achaemenid use (Olmstead 1948); Sekunda (1988a and 1989) suggests that Darius introduced this defence to the Persian cavalry. But this seems far too much to deduce from the slight and ambiguous evidence. Darius in the coin-portrait probably wears no armour at all; his trousers may simply be patterned, not armoured, and the rings on the arms may simply represent folds in the cloth - as in (g), a Greek agate showing an archer in Scythian dress with similar "banded" sleeves, or indeed Figure 32f.

Stronger evidence is that Gadai-lama's equipment list includes no less than two shields. This must show that some Achaemenid cavalry were now equipped with shields; nonetheless, it is not proof that shields were carried in mounted combat. As a parallel, we know that some Greek cavalry at this time

owned shields, but would not normally carry them on horseback. Xenophon (*Hellenica* II.4.24) describes Athenian cavalry in 404 BC standing guard "keeping both their horses and their shields with them" so that they could patrol "from dusk to dawn armed as hoplites, and at dawn on horseback". Similarly, when

Alexander the Great ordered some of the Macedonian cavalry to take their shields with them when ordered to take and hold a hill, it was because they were expected to dismount and fight on foot (Arrian I.6). In both cases, the use of shields was unusual and was associated with dismounted service. Gadal-Iama's may be a similar case, bearing in mind the lack of evidence for Achaemenid cavalry actually using shields on horseback.

However, one illustration *may* show Persians using shields while mounted. This is the lost relief from Yeniceköy (Figure 25a); the outline shown near the bridle-arm is interpreted by Bernard (1964) as that of a small rectangular shield. This seems unlikely. No conceivable method of carrying a shield on the arm, whether by a central handgrip or on arm-straps, would leave its front edge so near the upper arm. If this is a shield, it is slung on the back, and not carried ready for use. (A parallel for this is the horseman at the centre of the well-known Scythian gold comb from Solokha; he has a shield slung across the back of his shoulders, and a Scythian burial from Gladkovshchina produced an identical shield which was designed to be worn fixed across the back, not to be held on the arm at all; see A I Minzhulin in *Sovetskaya Arkheologiya* 1988, 4.) Alternatively, the outline may be associated with the hint of drapery on the right arm and represent a *kandys* or a cloak, not a shield.

After Xerxes' campaign, we have little direct evidence for the presence of eastern Iranian cavalry until the reign of Darius III. Then, some Baktrian cavalry were at the Graneikos, and several eastern contingents fought at Gaugamela; Arachosians, Parthians, Tapourians, Kadousians and two bodies of Baktrians. Their equipment is never specified, though one body of the Baktrians was associated with the heavily-armed Massagetai, so was probably similarly equipped.

However, we can call on some slightly later evidence. Various eastern Iranian cavalry were employed after the fall of the Achaemenids by Alexander and his successors; and the way they were used suggests that they were light horse. Alexander raised mounted javelin-men, *hippakontistai*, perhaps in Hyrkana or nearby; references to *hippakontistai* in the Indian

campaign may refer to Arachosians and the Paropamisadae of the Hindu Kush who were sometimes brigaded with them. In the wars of Alexander's successors, Antigonos at Paraitakene in 317 BC fielded 1,000 Median and Parthian mounted archers and javelinmen, described as "the lightest of his cavalry", to fight a mobile harassing action; reference to 2,000 Median javelin cavalry may mean that the Parthians were the archers. Eumenes chased these men off by redeploying his own lightest cavalry from his left wing, which included 600 Arachosians and 500 Paropamisadae; but we do not hear of his using mounted archers, so these men may all have been armed with javelins.

So the references we have for eastern Iranian cavalry in the next twenty years or so suggest that Darius III's eastern cavalry at Gaugamela, except one body of heavily-armed Baktrians, were probably light horsemen with bows or javelins. They were no doubt influenced by, and little different in equipment and tactics from, their nomadic Saka neighbours.

The Kadousians, a frequently rebellious people from the south-western corner of the Caspian Sea, are not mentioned in early Achaemenid armies but provided cavalry probably at Kounaxa (where the commander of Artaxerxes' cavalry was a Kadousian) and certainly at Gaugamela. Strabo, however, regarded them as infantry javelinmen, which is more appropriate to their mountainous homeland; the cavalry may have come from an extension of their territory into the Median plateau.

Later infantry developments

Infantry equipment, like that of cavalry, developed in the later fifth and fourth centuries.

The first possible change is that some Persian archers are shown in Greek art with crescent-shaped shields, the Greek *pelte* (Figure 26). The first firmly datable examples are from about 460, though some may be earlier. It has been suggested that this innovation was a response to the vulnerability of Persian infantry to the heavy Greek spearmen once the wall of wicker mantlets had been broken down.

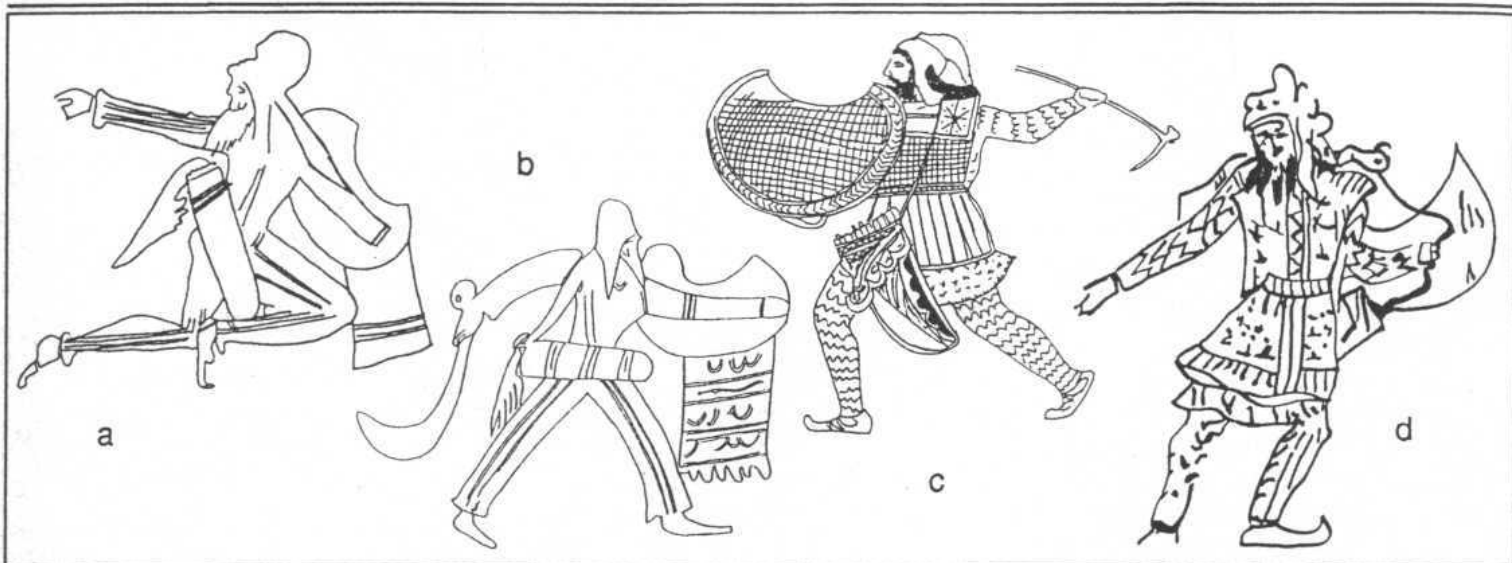


Figure 26: Archers with crescent shields - (a) Wounded Persian from a black-figure alabastron in Paestum museum. (b) Persian armed apparently with an Anatolian drepanon, from another black-figure alabastron found at Ampurias in Spain. (c) Archer with cuirass and sagaris, from an Attic red-figure amphora by the Oionokles Painter. (d) Persian from a Tanagra lekythos. The latter two date to c.460 BC. The other two might be earlier; but note that they both have protective aprons attached to their shields. This may be an unhistorical detail - these aprons were probably only ever attached to hoplite shields - which casts some doubt on the realism of these pictures.

But the shielded archers are not associated with *sparabara* in art; and Figure 27a suggests a different interpretation. Here, a crescent-shielded archer supports one of the light spearmen introduced a little later. Rather than being the rear ranks of *sparabara* units, given shields to stand up to the Greeks, the crescent-shielded archers may have fought separately in looser, perhaps skirmishing formations, not intended to stand up to Greek charges at all; they would have worked with the similar light spearmen once these were introduced.

From about the mid-fifth century, an apparently new troop type appears in Greek depictions of Persian warriors - an unarmoured infantry spearman with a light shield, either round or crescent-shaped like the Greek *pelte* (see Figure 27). He is equivalent to, and perhaps influenced by, the Greek peltast. Sekunda (1988b) cleverly speculates that these troops may have been called *takabara*, and that *taka* may have been Persian for the light, presumably leather, shields that they carry. (One of the subject races on the Persepolis royal tombs is identified in the Persian version of the inscription as *Yauna takabara*; the Babylonian equivalent speaks of "Ionians with shields on their heads", a reference to their broad hats. So *takabara* may be Persian for "carrying a (light) shield".) Perhaps the violin-shape leather shield of the Persepolis reliefs might also have been called *taka*.

These may well be the peltasts or *peltophoroi* sometimes mentioned in Persian armies. However, these troops may be neither entirely new, nor strictly Persian. Spear and/or javelins, with a light shield, was a traditional style of armament in Anatolia, and several contingents armed in this style served in Xerxes' army in 480 BC, for example; some of them might even then have worn Iranian styles of dress, and looked much like the later "Persian peltasts" - compare Plate 4A. The light spearmen in Greek art might, therefore, be tribal mercenaries or levied troops, armed in their traditional styles but dressed in an Iranicised costume. The peltasts Xenophon encountered in Mysia may have been such troops, serving in local garrisons.

From the end of the fifth century, we start to hear of Persian slingers. They are generally coupled with archers, apparently acting as skirmishing light infantry rather than as formed bodies like the earlier archers behind their wicker shields. The sling is not mentioned in accounts of earlier Persian armies; Xenophon (*Kyropaidia* VII.4.15) claims that Cyrus disarmed many of the Lydians and other subject nations, and made them serve in the dishonourable rôle of slingers; but since slings do not seem to be mentioned until Xenophon's own day this is no doubt one of his little inventions. The Ten Thousand on their retreat

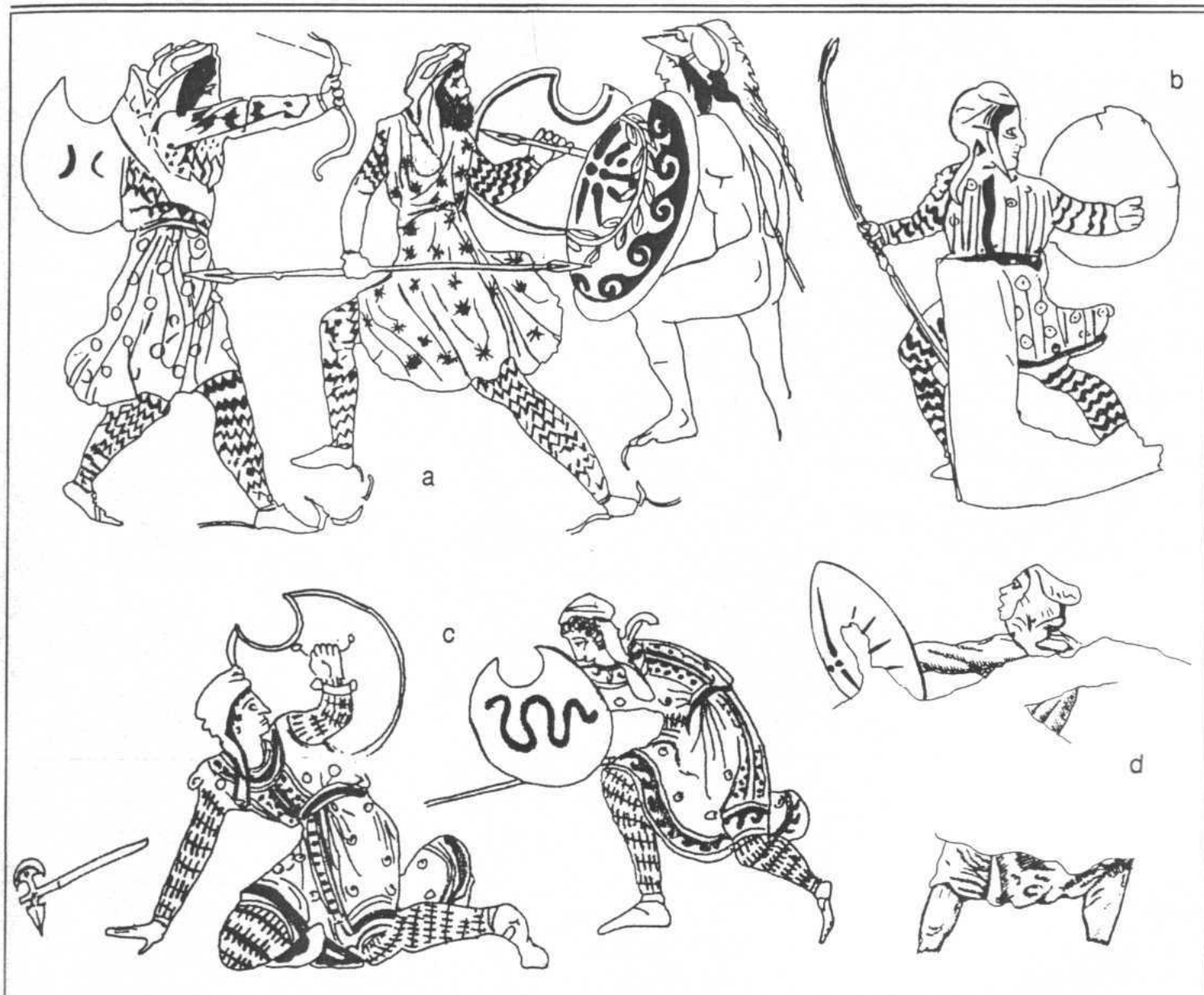


Figure 27: "Persian peltasts", spearmen with light shields, are shown in several later fifth and fourth century sources - (a) may be one of the earliest, from a red-figure oinochoe; it probably dates about the mid-fifth century (note the Greek hoplite's old-fashioned Corinthian helmet), but may be later. Note the spearman's crescent shield and the spike or blade on the spearbutt. The archer has a similar shield by his shoulder, probably slung over his back; he shoots from behind his comrade, possibly indicating tactical co-operation between the new light spearmen and the shielded archers. (b) Spearman with light round shield and a pair of javelins, on a late fifth-century oinochoe in Bologna. (c) Two of the legendary gryphon-fighting Arimaspians, shown as Persian infantry on an early fourth-century Attic pelike. Note one figure's fallen axe, and the other's snake shield-blazon. (d) Persian infantryman fighting a Macedonian cavalryman, from the lost paintings of the fourth-century Macedonian "Kinch tomb". He has a white cap, light green tunic, light beige trousers, and a red-brown star blazon on a yellow-brown shield. The star blazon is repeated in Figure 23b.

after Kounaxa, however, were frequently harried by archers and slingers - 4,000 of them at one point, "lightly armed and very quick on their feet" (*Anabasis* III.4). They harassed the Greeks, taking to their heels when charged. The slingers shot stones "as big as one's fist" (III.3), which did not carry as far as the small lead slingshot of the Rhodians, the best Greek slingers. The Greeks later (IV.4) took a prisoner "armed with a Persian bow and quiver

and a battle-axe like those which the Amazons carry... he said that he was a Persian" which suggests that some of these skirmishers were genuine Persians, not mercenaries or levies.

Some time after this campaign, Xenophon's brief summary of Persian military organization in the *Oikonomikos* (IV.5) suggests that "cavalry and archers and slingers and *gerrhophoroi*" are the standard components of a

Persian provincial army. There were 3,000 slingers in Datames' army in 367 BC (Nepos, *Datames*, VIII.2), and 20,000 archers and slingers in Darius' line at Issos (Curtius III.9.1). After his conquest of the Achaemenid empire, Alexander raised 20,000 Persian archers and slingers (Diodoros XVII.110), and his warring successors often used such troops. Strabo, writing much later, says that every Persian had a bow and a sling.

The most enigmatic of the later Persian infantry troops are the *kardakes* mentioned in several sources. There is no general agreement on their status or tactical rôle, and several interpretations have been proposed.

Strabo says that Persian youths undergoing military training (as described in "Persian military training", above) were called *kardakes* "for *karda* means the manly and warlike spirit" (XV.3.18). Another possible meaning for *kardakes* is "Kurdish" - Xenophon calls the Kurds *Kardouchoi*, and Lukshu the mercenary Kardaka has been mentioned above; so the *kardakes* in Achaemenid armies have

Figure 28: Persian infantry and cavalry. This fourth-century south Italian krater shows Persian infantry equipped like one man Xenophon saw, "with a Persian bow and quiver and a battle-axe like those which the Amazons carry" (though actually the artist has shown Greek-style bows), and a typical late Persian cavalryman. The archers, with no armour or shields, may represent the light infantry archers who are common in the fourth century, and are often coupled with slingers.



sometimes been identified as Kurdish mercenary troops.

Bodies of troops called *kardakes* occur in two fourth-century armies. Autophradates in 367 had 100,000 *kardakes* and 3,000 slingers "of the same kind" (Nepos, *Datames* VIII.1). At the battle of Issos, Arrian (II.8) says that Darius III supported his Greek mercenaries with "60,000 Persian hoplites, called *kardakes*, half on each of their flanks". This is our only specific reference to the *kardakes*' equipment. But Polybios, discussing the account of Issos given by the contemporary writer Kallisthenes, says (XII.17.7) says that the mercenaries were drawn up with peltasts next to them, in a line reaching to the hills. This is usually taken to imply, in contradiction to Arrian, that the *kardakes* were peltasts. Most scholars have simply assumed that one author or other is wrong, and J F C Fuller's suggestion (*The Generalship of Alexander the Great*, 1958) that they must have been peltasts, since otherwise Alexander would not have charged them frontally with cavalry, has been the most influential. As an alternative, I have previously suggested (Head, 1982) that their equipment might have conformed exactly neither to the Greek idea of a hoplite nor to that of a peltast.

But the "peltasts" Kallisthenes mentions might not be the *kardakes* at all; his description of the "peltasts" formed next to the Greek mercenaries, reaching as far as the hills, does not quite fit with Arrian's *kardakes* in two bodies on both flanks of the mercenaries. And Curtius' description of the battle line has *two* bodies of infantry, one of 20,000 mentioned next to the Greeks, and one of 40,000 next in line. The combined strength of these two bodies is the same as Arrian's *kardakes*-hoplites; the position of the second fits with that of Kallisthenes' peltasts. If the first body was composed of *kardakes*-hoplites and the second of the familiar "Persian peltasts", we need not dismiss either account completely. In that case, the widely-held view that the *kardakes* were a Persian attempt to create an effective close-fighting infantry, by copying the Greek hoplite, would be correct; but Alexander's successful cavalry charge will have been directed, not at an unbroken line of *kardakes*-hoplites, but at the peltasts deployed next to them.



Figure 29: Persian troops from the Alexander Sarcophagus, dating from Alexander the Great's reign or soon after and showing scenes of his battles against the Persians. Some of the original painted decoration can be identified under ultra-violet light. Infantry are shown with both the hoplite shield, (a), and the crescent pelta, (b). Others are archers. One infantryman, (c), has the same type of linen cuirass worn by the Macedonians on the sarcophagus. Typical Persian cavalry, (d), are also shown.

The reference in Nepos apparently to *kardakes* slingers - 3,000 slingers "of the same kind" (or "nationality" - *eiusdemque generis*) might be a misunderstanding, the implied *kardakes* in this case meaning "Kurds". But it suggests the possibility that *kardakes* slingers as well as *kardakes* hoplites might really have existed; and therefore that the word refers to troops of a particular status or origin, not to a style of equipment. They are too prominent and too numerous for *kardakes* simply to equal Kurds; and the idea that they represent Strabo's *kardakes* youth-corps, called out as an emergency measure, would be reasonable if the corps at Issos was the only one, but less likely

considering Autophradates' force as well - which was by no means an emergency levy. The name *kardakes* could denote troops from a new source of manpower, perhaps new regiments of Iranian or tribal mercenaries.

There are references to *kardakes* later, in Hellenistic armies - notably the Seleucids' at Raphia - and to what might be military colonies of *kardakes*, but their relation to the Achaemenid *kardakes* is difficult to discern.

How long did the traditional *sparabara* survive alongside these new infantry types? Xenophon still mentions *gerrhophoroi* at Kounaxa (and

the Greeks made bonfires of their wicker shields after the battle); and in the *Oikonomikos* (IV.5) he suggests that each Persian province supplies "cavalry and archers and slingers and *gerrhophoroi*". In this case, Tuplin (1987a) suggests the *gerrhophoroi* were peltasts; certainly it is odd that peltasts are absent from this scheme, when they are so commonly depicted and are mentioned elsewhere by Xenophon. Asiatic light spearmen, such as the Chaldaian mercenaries in Armenia (*Anabasis* IV.3; Figure 7b) could indeed carry *gerrha*; so troops legitimately called *gerrhophoroi* might vary in armament and tactics.

If the mere term *gerrhophoroi* is then ambiguous, we cannot be sure how long the old wicker-mantleted archers stayed in use; the

Figure 30: Persian warriors in later Hellenistic art. (a) Figurine of a cavalryman. The animal-skin saddlecloth is a Macedonian feature, so the figure could represent one of the Iranian cavalry serving in the armies of Alexander's successors. (b) Statue of a dead Persian infantryman from Pergamon, late third century BC.



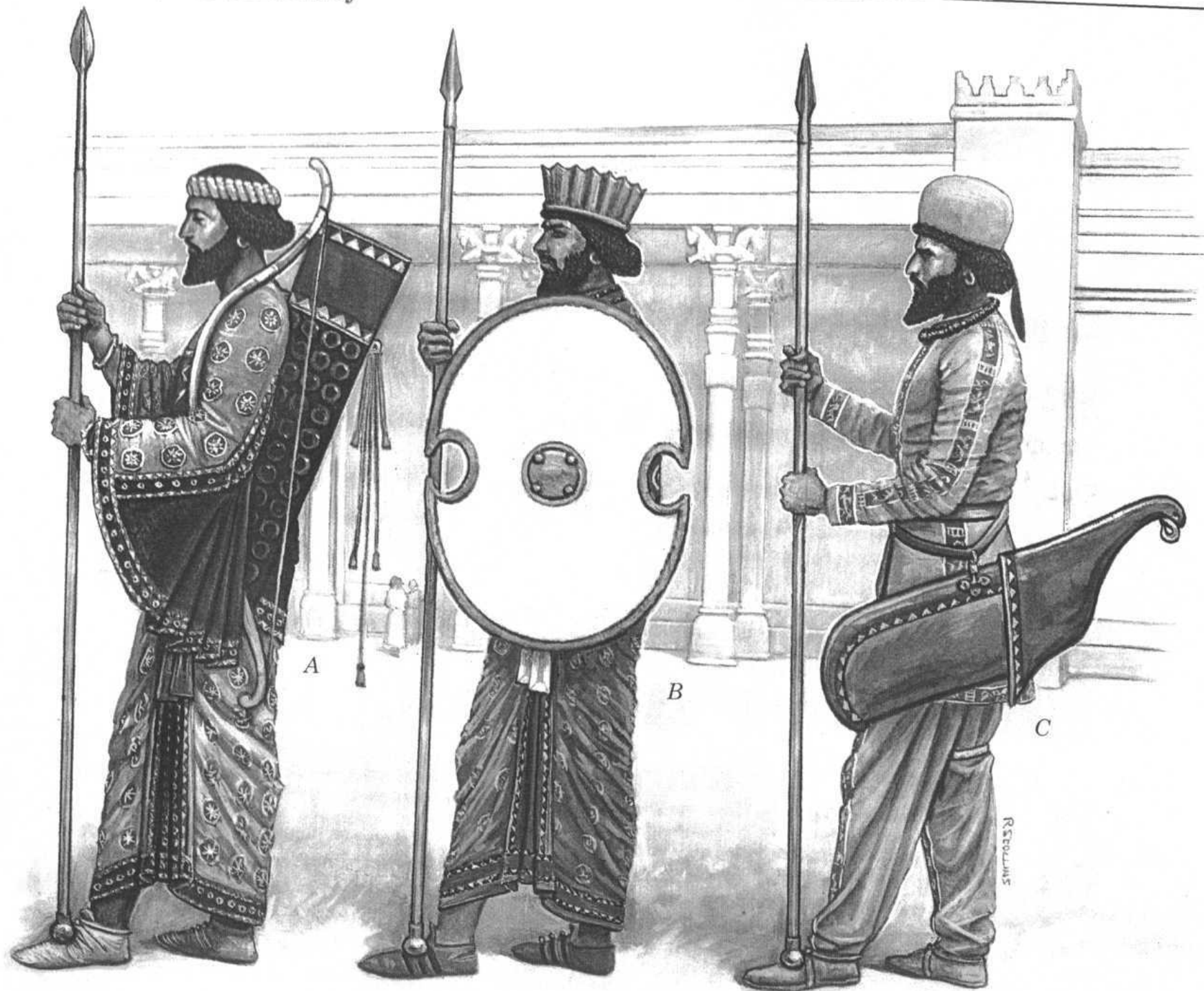
Kounaxa *gerrhophoroi* fled before showing what weapons they carried. *Sparabara* disappear from art after the 450s, suspiciously soon after the appearance of the first new infantry type, the crescent-shielded archers of the 460s; and the light spearmen may appear soon after that. Having shown their inability to stand up to the Greek hoplites, the *sparabara* may have begun to be replaced before the end of the Greek wars, and have disappeared soon after.

Camels, chariots, and catapults

Along with infantry and cavalry, Persian armies occasionally used other arms. One was camels. Both Herodotos and Xenophon describe Cyrus the Great improvising a camel-corps to scare the horses of the superior Lydian cavalry, by mounting two men on each of the camels from the baggage-train - two men armed as cavalrymen, according to Herodotos, two archers according to Xenophon. But the camels never became a standard part of the army, though Arab camel-riders formed part of Xerxes' army.

From the end of the fifth century, war-chariots bearing scythes were a common part of the army. Xenophon ascribes their introduction to Cyrus the Great, but since he credits almost every Persian institution to Cyrus, this may be worthless. It can hardly be coincidence that we never hear of scythed chariots before Xenophon's own day; he is projecting contemporary practice into the past, and Cyrus' scythed chariots are as fictional as the towers, drawn by eight yoke of oxen and carrying twenty men, which Xenophon also describes (*Kyropaidia* VI.1.52-54).

Persian chariots are frequently shown in the sculptures at Persepolis, but their only military function may have been as command vehicles. Herodotos records Xerxes in a chariot on the march, but the only other vehicle he mentions (except the chariots of foreign contingents) is the sacred chariot of Ahura-Mazda, "drawn by eight white horses, with a charioteer behind them holding the reins - for no mortal man may mount into that chariot's seat". (Xerxes entrusted the sacred vehicle to the Paionians rather than taking it to Greece, but failed to



A Guardsman from Susa
 B Guardsman in Persian dress
 C Guardsman in Median dress

- A Sparabara shield-bearer
B Archer
C "Immortal" in campaign dress
D Standard-bearer



- A Persian senior officer
B, C Attendants
D Persian cavalryman
E Saka Haumavarga horse-archer



- A *Kappadokian infantryman*
B *Indian Infantryman*
C *Egyptian marine*
D *East Iranian infantryman*





- A *Babylonian colonist cavalryman*
B *Bodyguard of Cyrus the Younger*
C *Greek mercenary hoplite*



- A Lykian cavalry commander
- B Lykian infantryman
- C Greek mercenary peltast
- D Paphlagonian cavalryman



- A Darius III in the royal chariot
B, C Persian cavalry
D Persian Kardaka hoplite



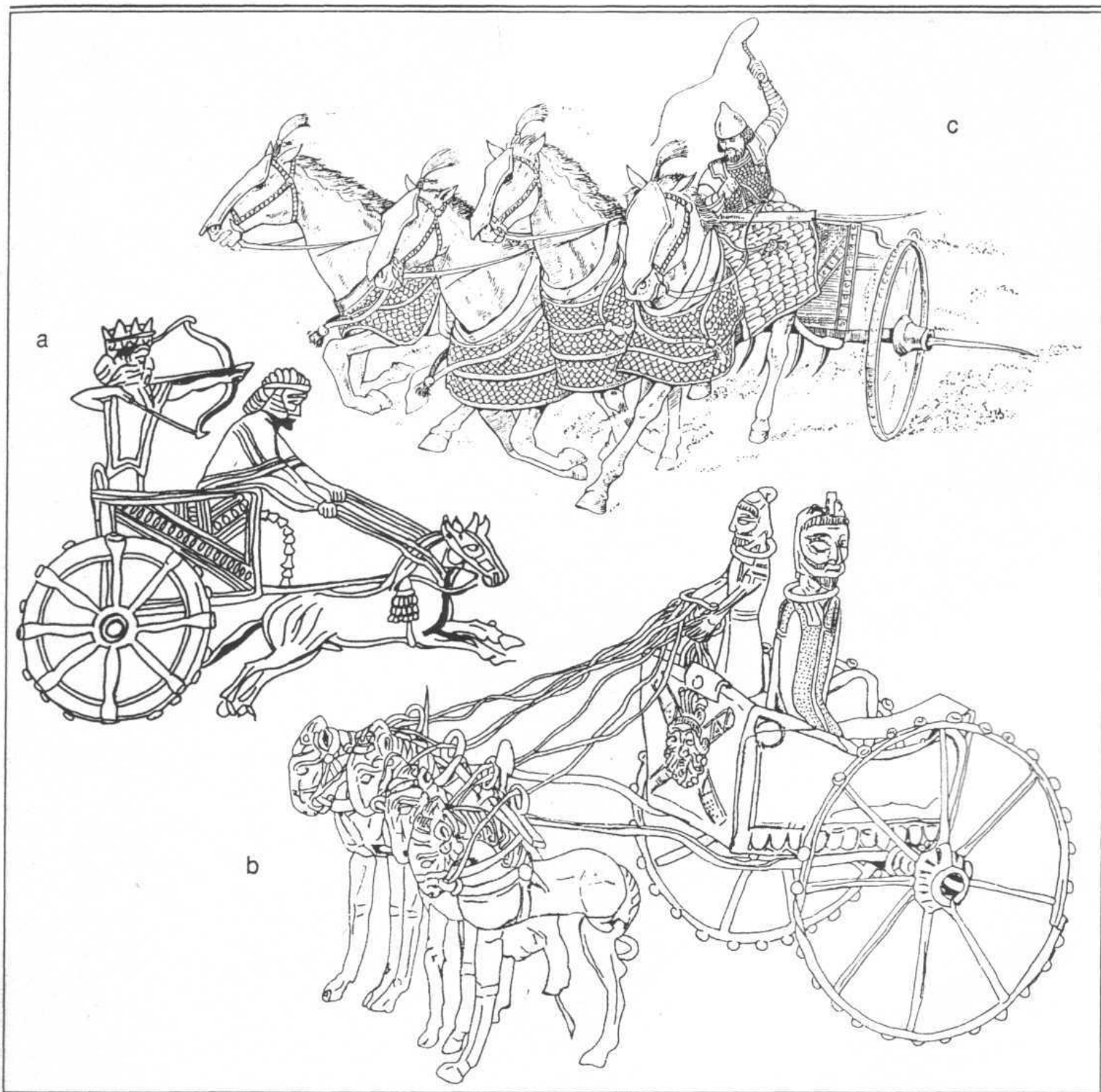
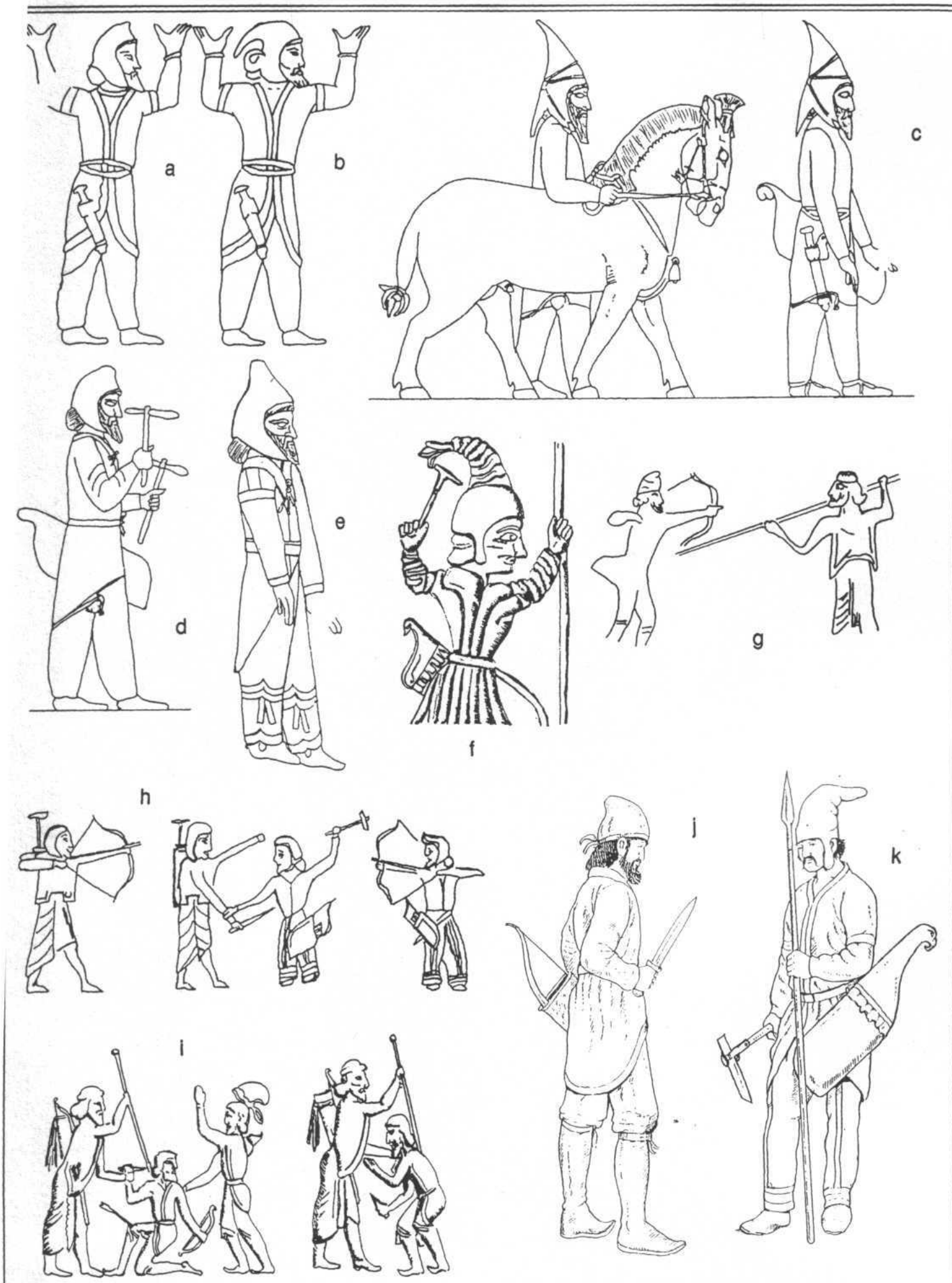


Figure 31: Chariots - (a) Darius I hunting in his chariot, from the King's cylinder-seal. (b) Gold model of a four-horse chariot from the Oxus treasure. Note the seat for the kandys-wearing passenger. (c) Reconstruction of a scythed chariot, as described by Xenophon and Diodoros. The horse-armour follows Xenophon; the scale breast-armor is patterned after the later lamellar defence from Pergamon, while the parapleuridia of larger scales are inspired by earlier Near Eastern chariot-horse defences.

recover it: Herodotos VIII.116.) Cyrus the Younger also rode a chariot on the march to Kounaxa, but fought on horseback; Darius III entered the field of battle on his chariot at both Issos and Gaugamela.

The scythe-bearing chariot is first mentioned at Kounaxa. It cannot have been completely new,

since both sides used them, though Cyrus had only a few. Artaxerxes' chariots were driven against Cyrus' Greeks, with very little success - their drivers abandoned them, and the Greeks opened their ranks to allow the unguided vehicles to pass through, only one man being ridden down.



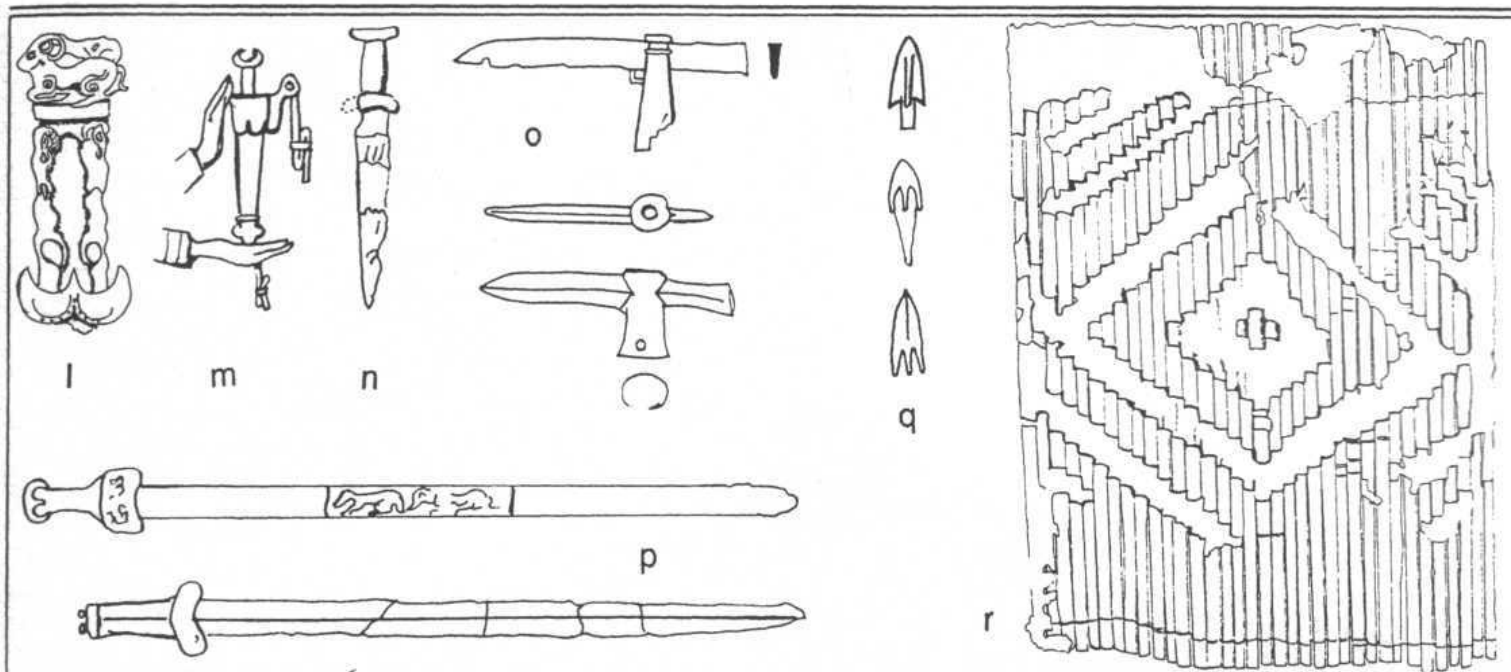


Figure 32: The Saka - (a) Saka Haumavarga and (b) Saka Tigrakhauda, from the Persepolis royal tombs. Both wear the characteristic long Saka coat, with bands of decoration down the edges of the front and round the upper arm; both carry the akinakes. (c) Tributary from delegation 17, Saka Haumavarga or possibly Sogdian, from the Persepolis Apadana. He wears the akinakes under his coat, only the chape showing, and carries two sagaris axes as tribute. (d) Saka Tigrakhauda tributaries from delegation 11, in Median-style tunics rather than the usual long coats. (e) Saka Tigrakhauda tributary from a relief of Artaxerxes III at Persepolis. (f) Gold plaque from the Oxus treasure; a Saka warrior in the typical coat, and a tall cap flopping over backwards. He has a bowcase at his belt, sagaris and spear in his hands. Compare the floppy caps of 32a and 32f with the rigid caps of 32d and King Skunkha in Figure 2; a Saka prince from the Issyk kurgan had a similar rigid, pointed cap or crown (Rolle 1989). Perhaps wearing the tall cap stiffened was a mark of rank, like wearing the Persian tiara upright? (g) Seal from Persepolis, with an archer in Saka dress confronting a spearman in Persian robe. (h) Persian chalcedony seal showing two infantry in Persian robes fighting Saka archers in front-opening coats, decorated trousers and caps, one of them using a sagaris. (i) Seal from the Oxus Treasure showing Persians fighting against Saka, or possibly eastern Iranian, archers. The enemy have Saka coats but the tall boots associated with some east Iranian groups (Figure 19b); one has a pointed cap. (j) and (k) Two reconstructions of Saka infantry; (j) is based on the seal shown in 32i while (k) follows the gold plaque shown in 32f. (l)-(q) Saka weapons; (l) bronze hilt of an iron-bladed akinakes from the Pamirs, sixth to fourth century BC; (m) akinakes carried as tribute by Persepolis delegation 17 (see 32c); (n) dagger from the Novyi Kumak group of graves near Orsk, fourth century BC; (o) two sixth or fifth century swords, probably Massagetic, from the lower Syr Darya; (p) arrowheads from the Kyzylauz barrows in east Kazakhstan, about 500 BC; (q) bronze sagaris heads from sixth to fourth-century Sauromatian graves. (r) Shield from barrow I at Pazyryk in the Altai, fifth century BC; 35 round sticks threaded through holes in a leather sheet, the same construction as the Achaemenid spara. There is a broad leather grip or armstrap on the reverse; the leather is sometimes dyed. In the barrows, these are slung at the left rear of some horses' saddles, so they are presumably cavalry shields.

Despite this failure, scythed chariots were used again near Daskylion in 395 BC, when Pharnabazos used two to charge into a mass of hastily-formed up Greek foragers, breaking their formation and following up with a cavalry attack (Xenophon, *Hellenica* IV.1.17-19). Darius III fielded 200 scythed chariots at Gaugamela, but again with limited success; most were shot down by enemy light infantry, though Curtius claims that some successfully charged home, causing casualties and breaking the Macedonian ranks. This may have been true along part of the line, but clearly their overall effect was limited.

Xenophon describes the scythed chariots at Kounaxa, with "thin scythes extending at an angle from the axles and also under the driver's

seat, turned towards the ground, so as to cut through everything in their way"; he gives a more detailed description of Cyrus the Great's doubtless fictional chariots which is clearly based upon the real chariots of Cyrus the Younger. They appear to have been drawn by four horses, hitched to two poles, "with wheels of great strength, so as not to be easily broken, and with axle-trees that were long... the box for the drivers he made like a turret... the drivers he covered, all but their eyes, with armour. To the axletrees, on each side of the wheels, he added steel scythes about two cubits (three feet/90 cm) long, and below under the axletree he fixed others pointing to the ground...". He also mentions a door in the chariot body, by which the driver entered. The drivers were

armoured with cuirass, helmet and arm-defences, while the horses had bronze head- and breast-armour and *parapleuridia* to protect the flanks. Diodoros (XVII.53) describes the chariots at Gaugamela, with scythes three spans (27 inches or 68 cm) long attached to the ends of the yoke, cutting-edge forward, and two more at the axle-housings, longer and broader and curved at the ends. He does not mention the scythes under the body, which may have been abandoned; they seem the least practical part of the equipment, liable to catch on any irregularity in the ground.

At the end of the *Kyropaidia*, Xenophon's description of the decline of Persian arms includes a reference to the decay of the scythed chariots. They use unskilled and underpaid drivers, and "they do indeed make an attack, but before they can break into the enemy ranks some involuntarily fall out, others jump down and run away; so that the driverless chariots frequently do more injury to their friends than to their enemies". Yet the description of Cyrus the Great's chariots, albeit fictional, shows that Xenophon, who had after all faced scythed chariots in battle, thought that they could be very effective if properly handled. In his imaginary battle some of the chariots charged home, and though their drivers were killed the confusion they made in the enemy ranks was exploited by infantry following close behind them. This, then, was the key to the chariots' success; first they had to charge into their targets and not swerve aside, but secondly their charge had to be closely followed up by other troops - as Pharnabazos had shown by supporting his chariots with cavalry.

Artillery - early forms of the Greek bolt-shooting catapult, like a giant bow laid sideways on a stand - was an innovation of the last years of the Achaemenids. Catapults were used to defend the cities of Halikarnassos, Tyre and Gaza against Alexander, and at the Persian Gates pass in Parsa itself.

The foreign troops

The Persian army was noted for its multinational character, and just about every people within the borders of the empire - and some from outside - are recorded within Persian

armies. This section gives an overview of the evidence for the various contingents from beyond Iran.

The Saka

One of the most important foreign groups in the Persian army was the Saka troops. The Saka were a powerful group of nomadic tribes who lived on the steppes to the north-east of the Achaemenid empire. They spoke an Iranian language, and were related to the European Scythians of the Ukraine. Indeed the languages and customs of both groups were basically the same, and Herodotos (VII.64) says that "Sakai" was simply the Persian name for all Scythian tribes. The Saka stretched from the Urals to the borders of Mongolia, and Persia had to do only with the western groups. Major archaeological finds from Saka territories further east (Issyk kurgan south of Lake Balkash, and Pazyryk in the Altai) can give an idea of Saka equipment in the Persian sphere.

Persian inscriptions list three groups of Saka subjects: the Saka "beyond the Sea" (these are the European Scythians, not really Persian subjects given their humiliation of Darius I); the *Saka Haumavarga*, "drinkers of the sacred *haoma*", Herodotos' "Amyrgian Scythians"; and the *Saka Tigrakhauda*, "of the pointed hats". Where the latter two groups lived is not clear. Egyptian inscriptions of Darius mention instead the "Saka of the marshlands" and the "Saka of the plains", perhaps the same two under different names. Greek sources claim that Cyrus the Great was killed by the Massagetai, known to Herodotos and to later Greek geographers as a powerful Saka confederation; according to Ktesias (see Dandamaev 1984), Cyrus had already subdued the Saka king "Amorges" (whose name denotes the Saka Haumavarga), who brought 20,000 men to help Cyrus in his last campaign. So the Saka Haumavarga must have lived fairly close to the Persian border, since Cyrus subdued them before fighting the Massagetai. Darius later fought against king Skunkha of the Saka Tigrakhauda, who lived presumably further afield; they might be the Massagetai. Xerxes adds the Daha, or Dahai to the list of Saka subject peoples.

We never hear of a satrap of any Saka group,

and it is unlikely that the Persians ever controlled any major Saka tribe closely enough to appoint Persian officials over it. Darius did not place a governor over the Saka he defeated; he merely nominated a king to replace Skunkha. Some Saka throne-bearers on the Persepolis tombs wear torcs round their necks, as does the Arab alone amongst the other figures; since the Arabs are known to have been a client state ruled by their own king, the torcs may indicate that the status of the Saka was similar - their rulers were allies or clients of the Great King. Saka soldiers in Persian armies, therefore, would have been technically allies or mercenaries, not subject levies.

Most Saka cavalry were lightly-armed mounted archers (Plate 3E), but some were heavily armoured; the Massagetic cavalry apparently inspired the Persian use of horse armour, and the Massagetai at Gaugamela had both horse armour and more personal armour than their Greek opponents. Herodotos describes the Saka infantry in Xerxes' army as lightly armed, with bow, *akinakes* and the light *sagaris*, a pick-like axe (Figure 16e-g). Similar light archers, probably Saka, appear in Achaemenid art (see Figure 32i, j). But at Marathon in 490 BC, Saka infantry distinguished themselves fighting alongside the Persians in the centre of the line, and broke through the Athenian hoplites; and at Plataia Xerxes' Saka were also deployed in the main line of battle. This suggests that their equipment may have been heavier than Herodotos says. He speaks (I.215) of the Massagetai as having spearmen as well as archers, a plaque from the Oxus Treasure shows that some Saka infantry used spears (Figure 32f) and, as with the eastern Iranian infantry, it is tempting to suggest that shields or even Persian *spara* may have been issued.

The distinctive bronze three-barbed arrowheads used by the steppe nomads are found all over the Persian empire. Some of these finds might reflect the location of Saka troops, but there is little supporting evidence for Saka settlements or garrisons (though the placename Sivand near Shiraz has been thought to derive from "Sakawant-" and to indicate a Saka military settlement) and it is more likely that the weaponry was widely adopted by other Achaemenid troops. Indeed after Xerxes' campaign we have few references to Saka

troops until Gaugamela. Saka soldiers, perhaps military colonists of the Saka *hatru*, feature in some Babylonian documents, on one occasion in charge of ships perhaps escorting grain supplies (Dandamayev 1982), reminding us that Saka were among the troops Xerxes used as marines in 480. At Gaugamela, however, Saka cavalry are numerous - 1,000 Dahai, 2,000 Massagetai, a contingent of mounted archers simply called Saka, and perhaps the Sakesinians as well.

The Indians

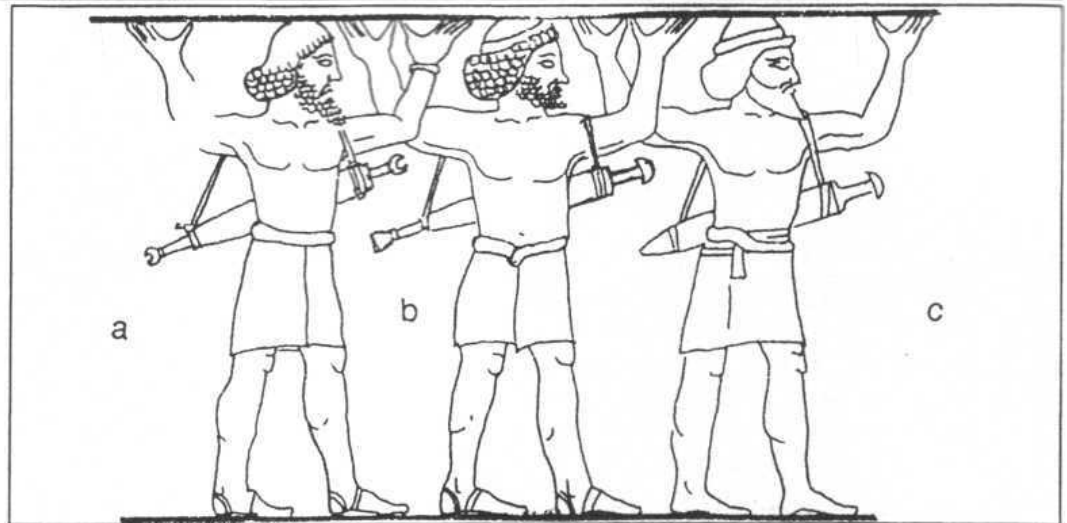
At the eastern limits of the Persian empire, some of the Indian peoples were subdued by Darius I. The subject figures on the royal tombs include three peoples shown with Indian kilts and massive swords: the Hindush, the Gandara, and the Thatagush or Sattagyadians.

In Xerxes' army the Indians - the Hindush - provided infantry and mounted contingents which seem to have been small but of high quality, since Mardonios selected them to stay in Greece. The infantry (see Plate 4B) were archers; the mounted troops were a mixture of cavalry and chariots, the cavalry on swift horses but the chariots drawn both by horses and by wild asses (there is an Indian reference in the *Rg Veda* to chariots drawn by asses).

Herodotos says that these troops were equipped in the same way as their infantry - that is, as archers. This fits with Indian evidence for the chariotry; the heroes of Indian epic fight in a variety of styles, but mostly as chariot-riding archers. But cavalry, both in Indian sources and when Greek writers start to discuss Indian armies after Alexander's invasion, are almost invariably armed with spears or javelins. Since cavalry were far less important than chariots in fifth-century Indian armies - they are occasionally mentioned in the epics and other early sources, but make no contribution to the outcome of epic battles - Herodotos may simply mean that the chariot crews, the principal part of the mounted force, were archers.

The chariots of the epics were two-horse vehicles carrying a driver and one warrior; but Indian writings start, perhaps by the fifth century, to mention chariots with three or four horses, and occasionally suggest extra men

Figure 33: Indian throne-bearers from the Persepolis royal tombs - (a) Sattagyedian, tomb II. (b) Gandaran, tomb II. (c) Indian (Hindush), tomb VI. Note the large swords.



associated with the chariot. One source says a chariot has a driver, a warrior, and two men "watching the lynchpins" - perhaps escorting infantrymen (commentators on *Vinaya Pitaka* IV.105, quoted by Singh, 1965).

Of the other "Indian" peoples, the Gandarians in Xerxes' army are infantry equipped with bow and spear in eastern Iranian style, although they have Indian kilts and swords on the Persepolis royal tombs. Some border peoples certainly did mix Indian and Iranian influences - Herodotos (III.101) mentions the Paktyes, whom he counts as Indians but whose customs are like the Baktrians (and who are "the most warlike of the Indian peoples") - and Gandarian military styles may have been a similar mixture. No Sattagyadians appear in Herodotos' army list, though he couples them with the Gandarians in his list of Persian revenues.

Herodotos' "eastern" or "Asiatic" Aithiopians are another dark-skinned Indian people, perhaps from Gedrosia; they served in Xerxes' army as archers with crane-skin shields, wearing on their heads "the scalps of horses, stripped from the heads complete with the ears and mane; the mane served as a crest, and they wore the horses' ears stiff and upright".

Elephants were already used in Indian warfare by the fifth century, though they were a relatively new arm of battle - war elephants are not mentioned in the Vedas, though they are in later sources. They do not appear in Xerxes' army, whether because they were not yet in military use in that part of India under Persian rule, or simply because marching elephants from the Indus to Greece seemed a foolhardy

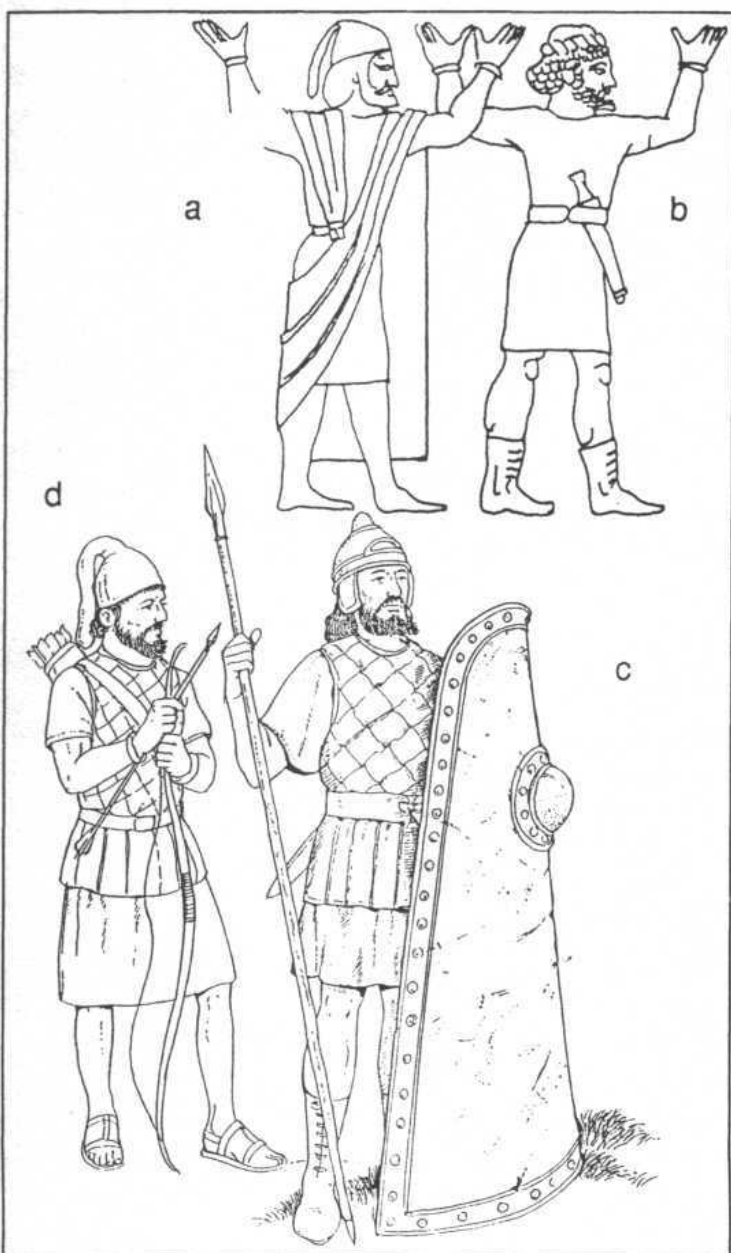
proposition. Their only appearance in Persian service is at Gaugamela, where fifteen elephants are in the Persian deployment plan (though they are not mentioned in the battle itself), along with a contingent of Indian cavalry. In the assembly of the Persian army (Arrian III.8) we hear both of "the Indian tribes on the Baktrian border" and of the "Indian hillmen", who come under the command of the satrap of Arachosia. The elephants are said to have come with "the Indian troops from this side of the Indus". Most of the Indian territories, those beyond the Indus, had been lost to Persia.

Babylonia, Syria and Arabia

The copious evidence for the military system of Achaemenid Babylonia has already been mentioned. Herodotos' list of Xerxes' great army does not mention Babylonians, but the Assyrian contingent was mixed with "some Chaldaeans"; Aischylos in the *Persai* however mentions archers from Babylon, who draw their arrows to the ear. Perhaps the Assyrian spearmen were brigaded with Babylonian or Chaldaean archers; mixed units of spearmen and archers, the two halves sometimes drawn from different sources, had been common in Assyrian and Neo-Babylonian military organization. Olmstead (1948) suggests that "Chaldaean" was used because "the very name of Babylonia was officially under ban" since the Babylonian revolt of 482 BC; a simpler alternative may be that the Greeks couldn't tell one Mesopotamian nationality from another.

After 480, Assyrian troops are only mentioned when Xenophon encountered Assyrian hoplites from a royal garrison in Mysia in 400 BC, but this suggests that Assyria was still a source for professional infantry, even if in no great numbers. Infantry from Babylonia and "Mesopotamian" cavalry were in the last Achaemenid army, at Gaugamela. If they were the remnants of the military colonists, they will have been of very diverse ethnic origins.

Figure 34: Assyrians and Babylonians - (a) Babylonian and (b) Assyrian, from the Persepolis royal tombs. (c) An Assyrian infantryman in Xerxes' army. The costume and the dagger are from the Persepolis Assyrians, the linen cuirass (not a defence attested in the Assyrian imperial period) is a Persian type, while the helmet, shield and spear are from reliefs of the late Assyrian empire. (d) Reconstruction of a Babylonian or Chaldaean archer, in the characteristic long cap shown at Persepolis. No source actually mentions cuirasses, but if such archers were indeed brigaded with spearmen they may have been issued the same armour.



The province "across the river", Syria, was not a great source of military manpower. The Phoenician and Palestinian cities provided ships to Xerxes in 480, and Phoenician fleets continued to be the mainstay of the Persian navy down to the war with Alexander. But we hear little of their armies. The citizens provided the marines for Xerxes' fleet and defended Tyre against Alexander with bows, slings and catapults; but to raise a substantial army the Phoenician cities needed mercenaries. When King Tennes of Sidon rebelled against Persia in 351 BC the Sidonian citizen forces are called numerous, well-trained, and strong; but he raised "a multitude" of mercenaries, and was sent 4,000 Greek mercenaries under Mentor of Rhodes by his ally, Egypt (Diodoros XVI.41-44).

From the rest of Syria, we hear of Syrian cavalry at Gaugamela - the "lowland and Mesopotamian Syrians". They might be foreign military colonists or garrisons such as those who have left their weapons at Deve Huyuk (Figures 13b-c and 16f) and who are depicted in



Figure 35: Phoenicians - (a) Warrior on a Phoenician ivory box from Carmona in Spain, seventh or sixth century. The equipment matches that of Xerxes' Phoenician marines (Herodotos VII.89): "helmets nearly of Greek style, and linen cuirasses... shields without rims, and javelins." A reconstruction is shown in (b); the helmet is the Ionian type. Perhaps in the same year that Xerxes' marines wore these linen cuirasses, Gelon of Syracuse captured linen cuirasses from their Carthaginian cousins (Pausanias VI.19.7).

terracotta figurines (Figure 22). There is little evidence for native Syrians serving in the armies; when Batis, governor of Gaza, needed troops, he hired Arab mercenaries.

The Arabs - or the most important of the Arab groups on the Persian border - were a client kingdom of Persia. When Cambyses invaded Egypt, he secured the co-operation of the Arabian king; Herodotos records that "the Arabs were never reduced to subjection" and that they presented voluntary "gifts" rather than paying tribute. Persia's Arabian clients were the Kedarites or Kidrai. These had been subdued by the Neo-Babylonian kings; in the fifth century inscriptions of the Kedarite kings range from Tema and Dedan in Arabia to Edom, Sinai and the Nile Delta. The Egyptian inscriptions have been interpreted as evidence for Kedarite mercenaries; but they probably indicate trading activities under the patronage of the Kedarite kings. In the fourth century, Kedarite power seems to have declined and been supplanted by that of the Nabataians, who may not have been so closely tied to Persia.

Figure 36: Arabs - (a) Arabayan throne-bearer from Tomb II at Persepolis. (b) Maka, from Tomb III. (c) Achaemenid seal with a horseman and a camel-rider, perhaps an Arab.

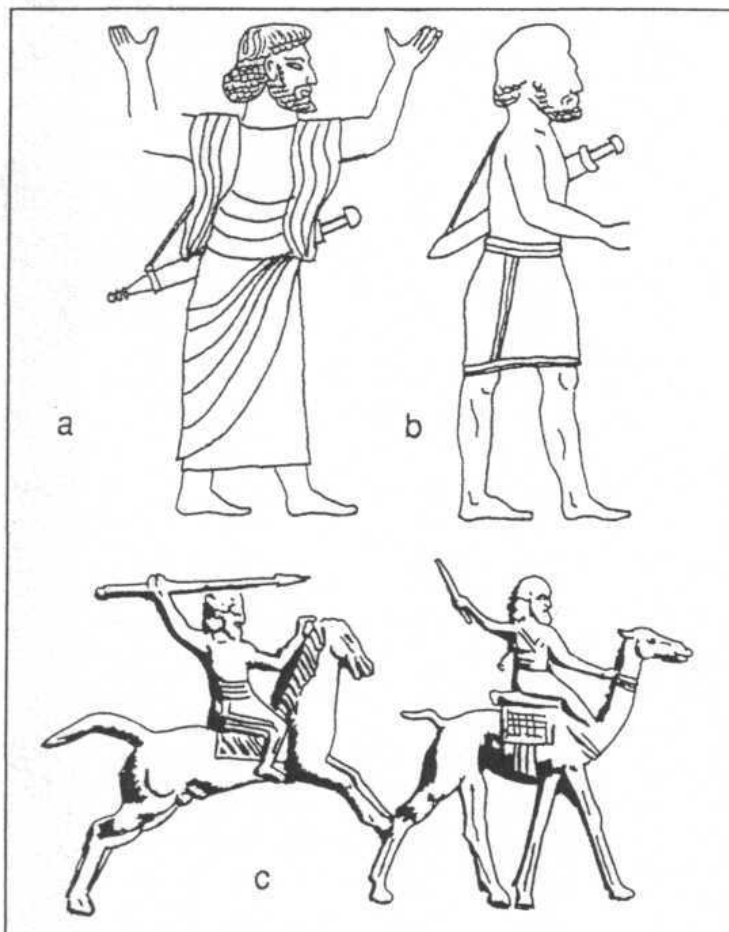


Figure 37: Egyptians - (a) Soldiers of the period immediately before the Persian conquest, Dynasty XXVI (664-525 BC), on a limestone relief fragment from Thebes. One carries a long double-curved bow and arrows, the other a large bowcase. (b) Green-glazed faience model of a bronze helmet (Met. Museum of Art 41.2.9), with the name Hor Psametik, probably from the head of a mummy. Possibly Dynasty XXVI, but perhaps later; so it might be Achaemenid, and is an alternative to the reconstruction in Plate 4C. (c) Throne-bearer from tomb II at Persepolis. His costume matches Herodotos' description: "a linen tunic with a fringe hanging round the legs, called in their language kalasiris, and a white woollen garment on top of it" (II.80). The upper garment is not worn, but its lower edge can be seen on the surviving fragment of the Egyptian tributaries from the Apadana. (d) Cylinder seal, with a Persian stabbing a victim in royal Egyptian dress; probably Artaxerxes I or his general Megabixos overcoming the rebel Inaros in 455 BC.

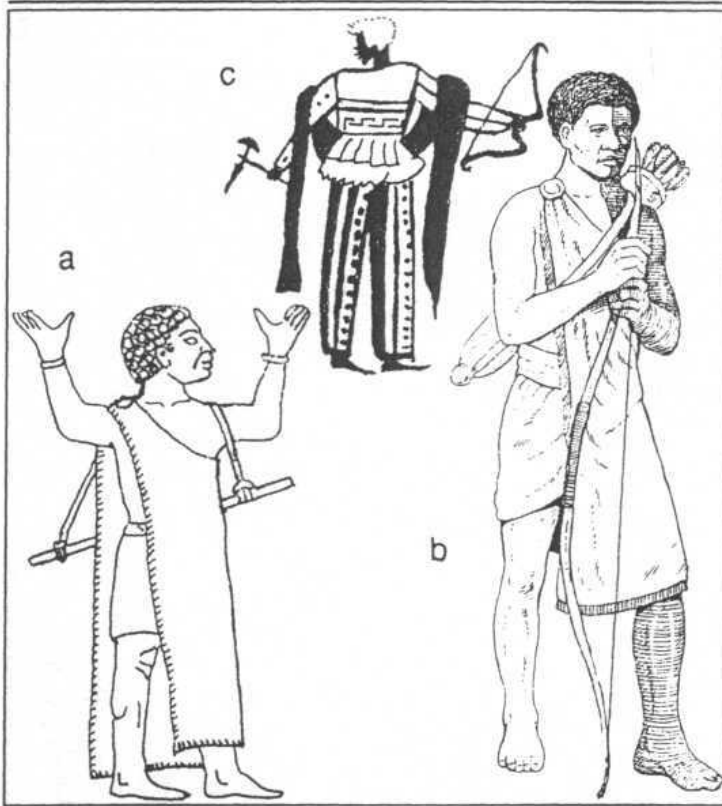


Figure 38: Aithiopians - (a) is the Kushiyan from tomb II at Persepolis. Some tombs show a sword instead of the staff. (b) is a reconstruction of Herodotos' description (VII.69): "The Aithiopians were wrapped in leopard- and lion-skins, and carried bows made of palmwood strips, four cubits long, and short arrows pointed... with a sharpened stone... spears pointed with a gazelle's horn and sharpened like a lance, and studded clubs. When they went into battle they painted half their bodies with chalk and half with vermillion". The bow and quiver are from Kushite art. (c) African warrior dressed in Persian style, from an Attic vase of the 480s, one of the "Group of the Negro Alabastra". Neils (1980) argues that these are not depictions of real African troops, but are imaginary, inspired by earlier portrayals of Amazons posed and armed in the same way. Other figures in the group have Greek hoplite shields, or Thracian pelt shields and zeira cloaks - the variety supports the suggestion that the figures are drawn from the artistic tradition, not from life.

The Arabs provided archers, both on foot and mounted on camels, to Xerxes in 480 BC; they "wore girdled-up cloaks, and carried at their right sides backward-curving bows" (Herodotos VII.69). Although an earlier Assyrian relief shows two Arab archers mounted on one camel - as was the case with Cyrus the Great's improvised camel-corps - Herodotos does not imply more than one in 480.

The Persians may have controlled one other Arabian people, the Maka. These are mentioned in inscriptions and included among the subject peoples on the Persian royal tombs. There, they wear short kilts like the Indians but carry short swords; and they have been

identified as an Indian people from Gedrosia. But Cook (1983) points out that tablets from Darius' reign identify Gedrosia as the satrapy of Purush, named after its capital Poura; yet Makkash appears as a separate satrapy. Later Greek geographers locate a people called the Makai in Oman, in eastern Arabia (where the Magan of earlier Mesopotamian texts may have been located); perhaps these are the Maka.

North Africa

The military organization of Egypt, and the rôle of the Egyptian *machimoi*, has already been discussed. Egyptian armies before the conquest had included cavalry and may still have used a few chariots. But the Persians seem only to have raised infantry and ships in Egypt, and descriptions of the independent Egyptian armies that fought against Persian attempts at reconquest mention cavalry only occasionally.

South of Egypt, Cambyses failed to conquer the "Aithiopian" kingdom of Kush. The "Kushiya" that appears in Persian inscriptions must refer to the "Aithiopians on the Egyptian border" whom Herodotos mentions in his list of Persian revenues; and even they gave "gifts" rather than paying tribute, so Persian control was only indirect. The infantry they provided in 480 BC (Figure 38) are the only Aithiopian troops mentioned in our sources.

Similarly, the Libyans listed in the army of 480 are the only known Libyan troops in Persian armies. They provided both javelin-armed infantry and chariots - Herodotos records that the Greeks learnt from the Libyans how to harness four horses to a chariot - and both are shown at Persepolis (Figure 39).

The Anatolian peoples

In the wide areas from Armenia westwards into most of Anatolia, the Persians raised lightly-armed infantry with short spears or javelins, and light shields. Nine and a half contingents in Xerxes' army in 480 are armed in this way (including the Mysian half of the Lydian-Mysian contingent), plus the marines of the Kilikian ships. Much of Autophradates' army listed for the campaign of 367 against Datames

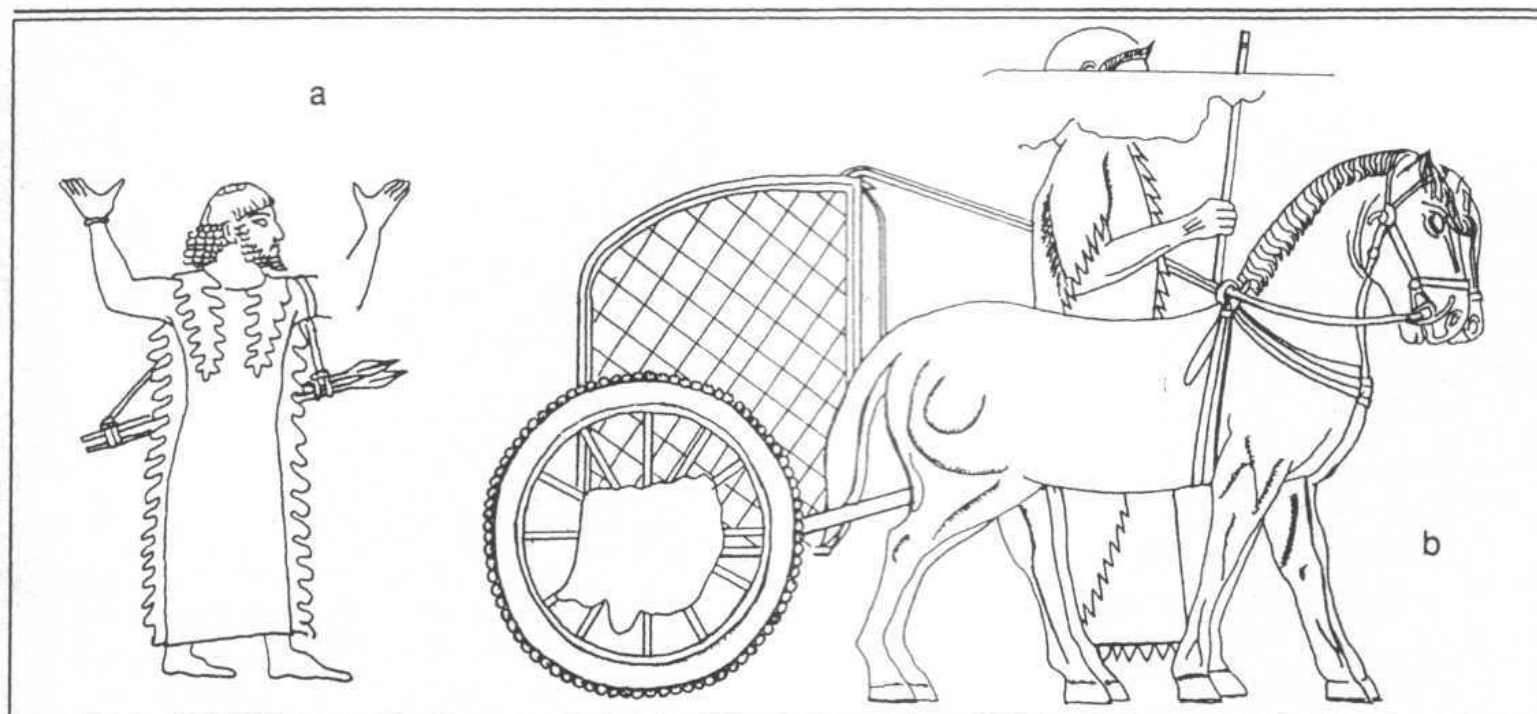
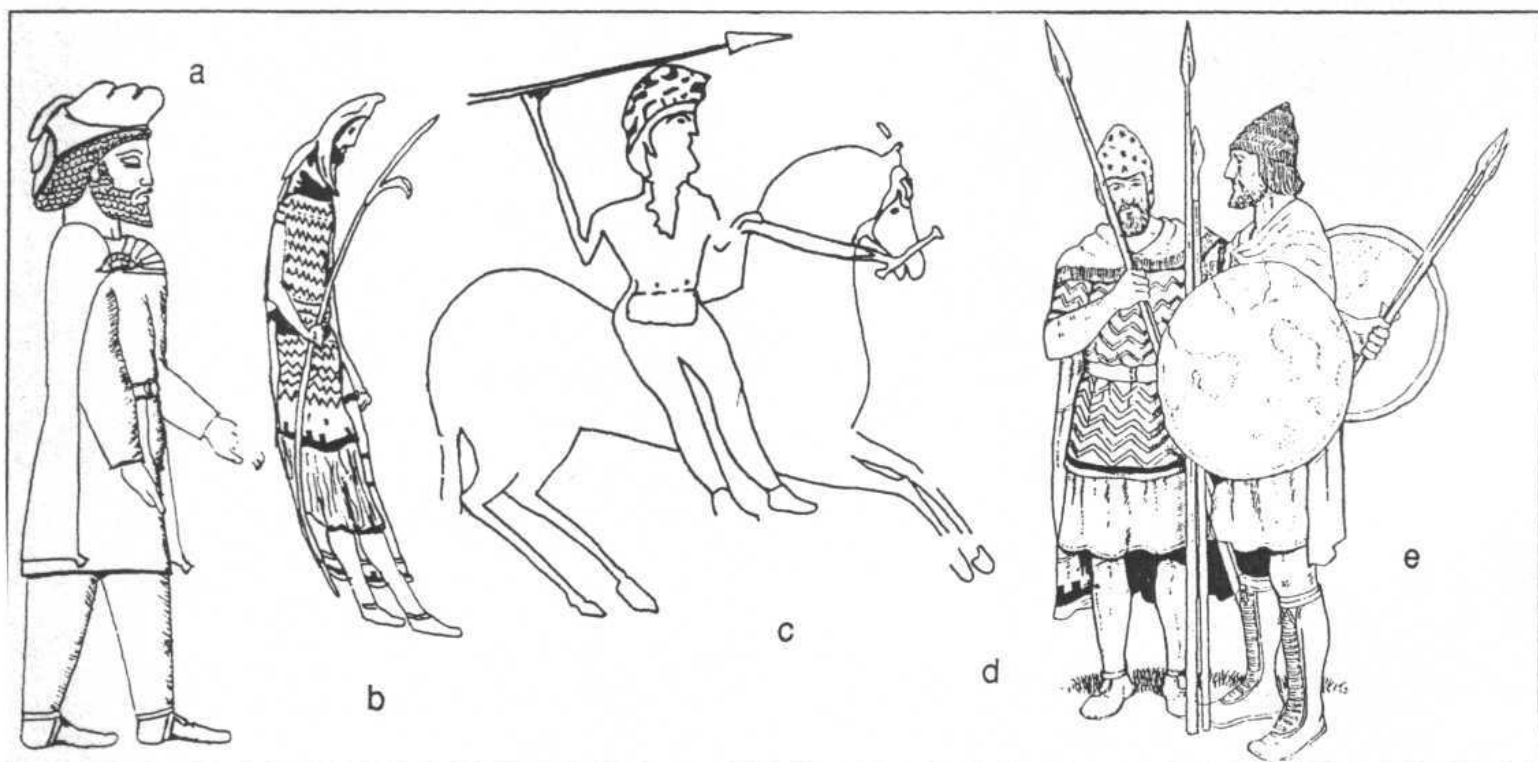


Figure 39: Libyans - (a) Libyan throne-bearer from tomb II at Persepolis. Herodotos (VII.71) describes them in "leather garments" armed with fire-hardened javelins; the ragged-edged cloak may be leather, fitting Strabo's description (XVII.3.vii, specifically about the Moors, but he says it applies to all the Libyans): "The infantry brandish elephant-skins as shields, and wear the skins of lions, leopards and bears... they wear unbelted tunics with wide borders, and use skins as cloaks and shields". Herodotos does not mention shields for Xerxes' Libyans. (b) Libyan tributary with chariot from the Apadana.

Figure 40: Anatolians - (a) Armenian and Kappadokian throne-bearers on the Persepolis tombs dress in Median style; and one of the Median-costumed delegations from the Apadana is usually identified as Armenians. This figure is from the delegation thought to be Kappadokian, because they add a short cloak fastened by an Anatolian fibula. (b) Warrior, meant for a Phrygian as he is at the court of the legendary King Midas, from a mid-fifth century Attic vase by the Midas Painter. He carries a dorudrepanon, a combined spear and sickle. This weapon is shown on other vases in the hands of Amazons and others, and is mentioned in Greek accounts of naval warfare; but there is no firm evidence for its use in the Achaemenid army. (c) Mounted huntsman from a Phrygian funerary urn, late fifth or fourth century (Ashmolean Museum). (d) reconstructs a Phrygian based on (b) and on Herodotos; (e) is a Paphlagonian, with the same weapons, knee-length boots, and plaited wicker helmet (Herodotos VII.72). The costume is the "peasant's double cloak and shaggy tunic" worn by Datames after his capture of a Paphlagonian prince, on the assumption that it was a Paphlagonian peasant he was representing (Nepos, Datames III.2).



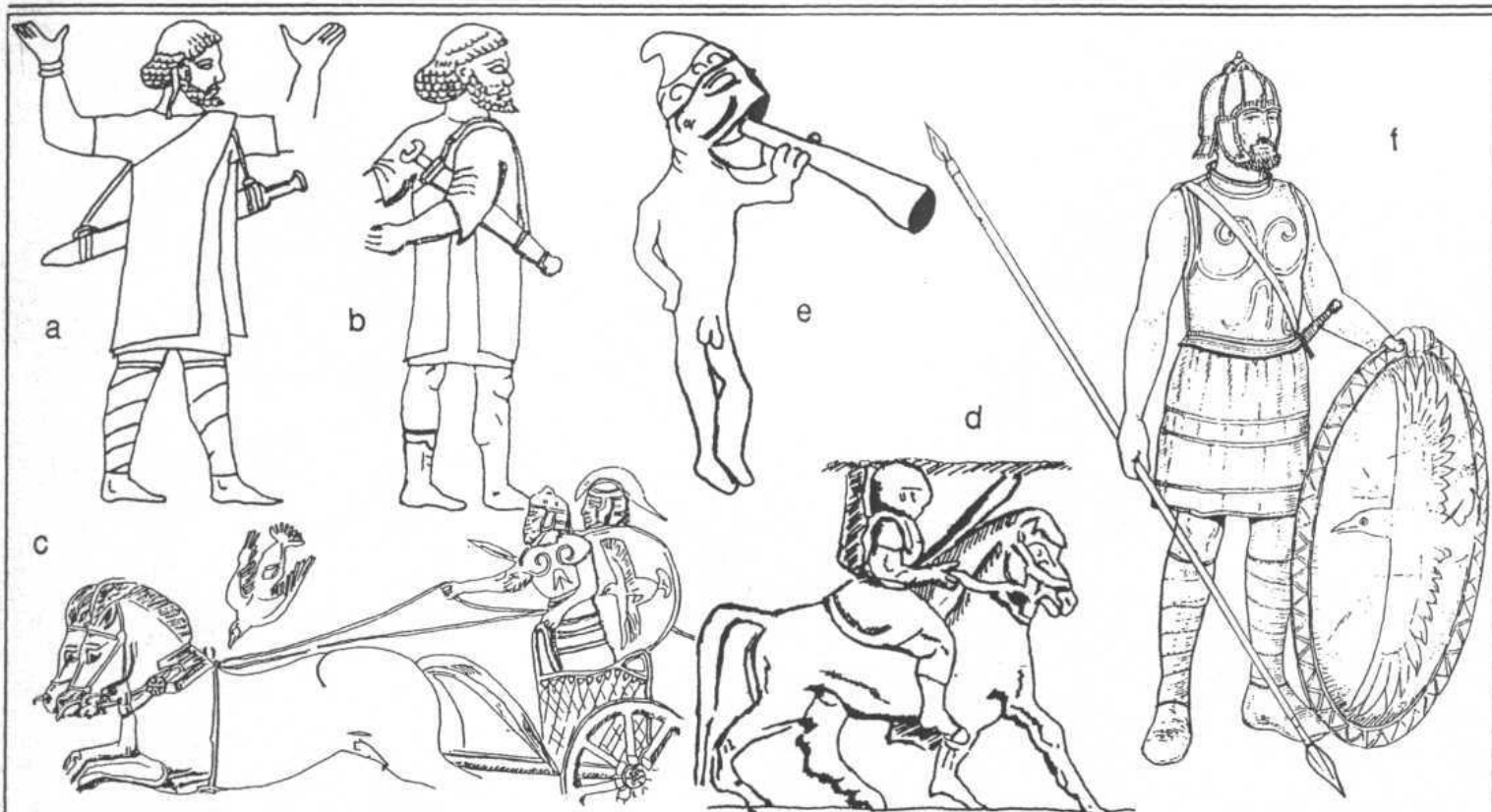


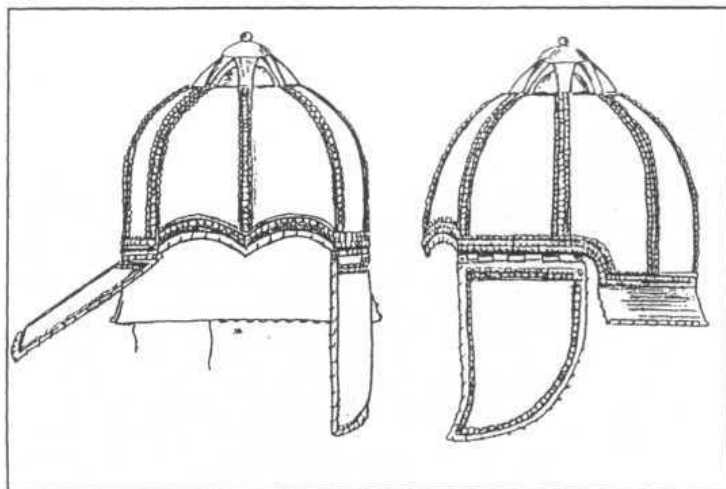
Figure 41: Lydians and Karians - (a) Lydian and (b) Karian, from tomb II at Persepolis. (c) Lydian chariot, fragment of a terracotta from Sardis c.530-520 BC. The bronze "bell" cuirass, spear and round shield, and the helmets are all Greek styles. (d) Lydian horseman, one of several from a marble carving of the same period, again looking very Greek. (e) Bronze figurine of a trumpeter from Mylasa in Karia, perhaps pre-Achaemenid. (f) Lydian hoplite. Some would have been indistinguishable from Greeks, but this reconstruction features the leggings of the Persepolis relief, and the helmet shown in the next figure.

would have been equipped in a similar style. The use of such troops as satrapal mercenaries has already been discussed.

Anatolia provided few native cavalry, but from the end of the fifth century, Paphlagonian cavalry feature in Persian armies - though their kings were at times hostile to Persia. Such cavalry fought for Cyrus at Kounaxa, and in the 390s 1,000 cavalry and 2,000 peltasts served with Spartan forces against Persia (Xenophon, *Hellenica* IV.1.3); they are later found at the Graneikos, back under Persian control.

In western Anatolia some infantry were heavily armed in Greek hoplite style. Herodotos lists the Lydians in Greek armour in 480; Polyainos' *Stratagemata* (VII.viii.1) attributes the introduction of Greek equipment to the last Lydian king, Kroisos (560-546 BC); and Lydian art shows Greek armour. The Karians were credited with inventing much of the hoplite equipment, so it is not surprising to see Karian marines armed in Greek style in 480. They also carried *drepana* and daggers. The *drepanon* was an Anatolian sickle-sword; the Lykian

Figure 42: This unique helmet was found at the foot of the Sardis acropolis in 1987 (Greenewalt, 1989). It seems firmly dated to the mid-sixth century; it was found in the debris of a Lydian building demolished in the Persian sack, along with sixth-century pottery; the rubble covers an occupation layer with more sixth-century pottery and organic material with a matching radiocarbon date. Yet it could easily be mistaken for a spangenhelm from a thousand years later. It is made of iron segments riveted together, the joins concealed by decorated bronze strips. There are no parallels for this helmet, so it is impossible to be sure of this helmet's national origin; although it has been given to the Lydian in Figure 41f, it might just as well have belonged to an allied soldier in the Lydian army or even to a Persian attacker.



marines also carried them, and they are illustrated on one Lykian monument (Figure 43b and Plate 7B; and see Figure 40b). Later on, "Karians with their white shields" were in Pharnabazos' and Tissaphernes' army in Ionia in 397 BC (*Hellenica* III.2.15), and there were Karians at Gaugamela.

The Lykians - Trmmili in their own language - lived in small city-states ruled by local princes, in sufficient autonomy that the Greek orator Isokrates claimed that no Persian had ever

controlled Lykia. But for most of the Achaemenid period they co-operated loyally with Persian satraps of Lydia or Karia. Several Lykian monuments depict their troops and record co-operation with the Persians (see Figures 4 and 43) - an inscription of Kherei of Xanthos recounts his defeat of an Athenian force under Meleander in 430, and his part in Tissaphernes' victories in Ionia; and Keriga, another prince of Xanthos, describes himself as leading "the Lykian army of the satrap".

Figure 43: Lykians - (a) Battle-scene from the Karaburun II tumulus, Elmali. The cavalryman has purple long-sleeved tunic, purple trousers and blue shoes, and early parapleuridia thigh-guards attached to his saddle. He may be a Lykian noble, but wears Persian costume. He is riding over a fallen archer and attacking a Greek hoplite in blue tunic, white cuirass decorated in red and black, and red-and-white helmet-crest. The Lykian infantryman has a pale tunic (another, similar figure wears blue), white cloak, white leggings with red garters, and red shoes - see Plate 5A. The excavator dates the tomb around 470 BC, and connects the battle-scene with the Athenian-led campaigns in Anatolia culminating in Kimon's victory at the Eurymedon. (b) Infantry with drepanon sickle-swords from the Trysa heroon (385-370 BC); see Plate 7B. (c) Main battle-scene from the sarcophagus of Payava, probably 375-350 BC. Payava, followed by other cavalry, rides down Greek peltasts - see Plate 7A and 7C. (d) Subsidiary battle-scene from Payava's sarcophagus. The second rider lacks parapleuridia, but seems to have a cuirass.

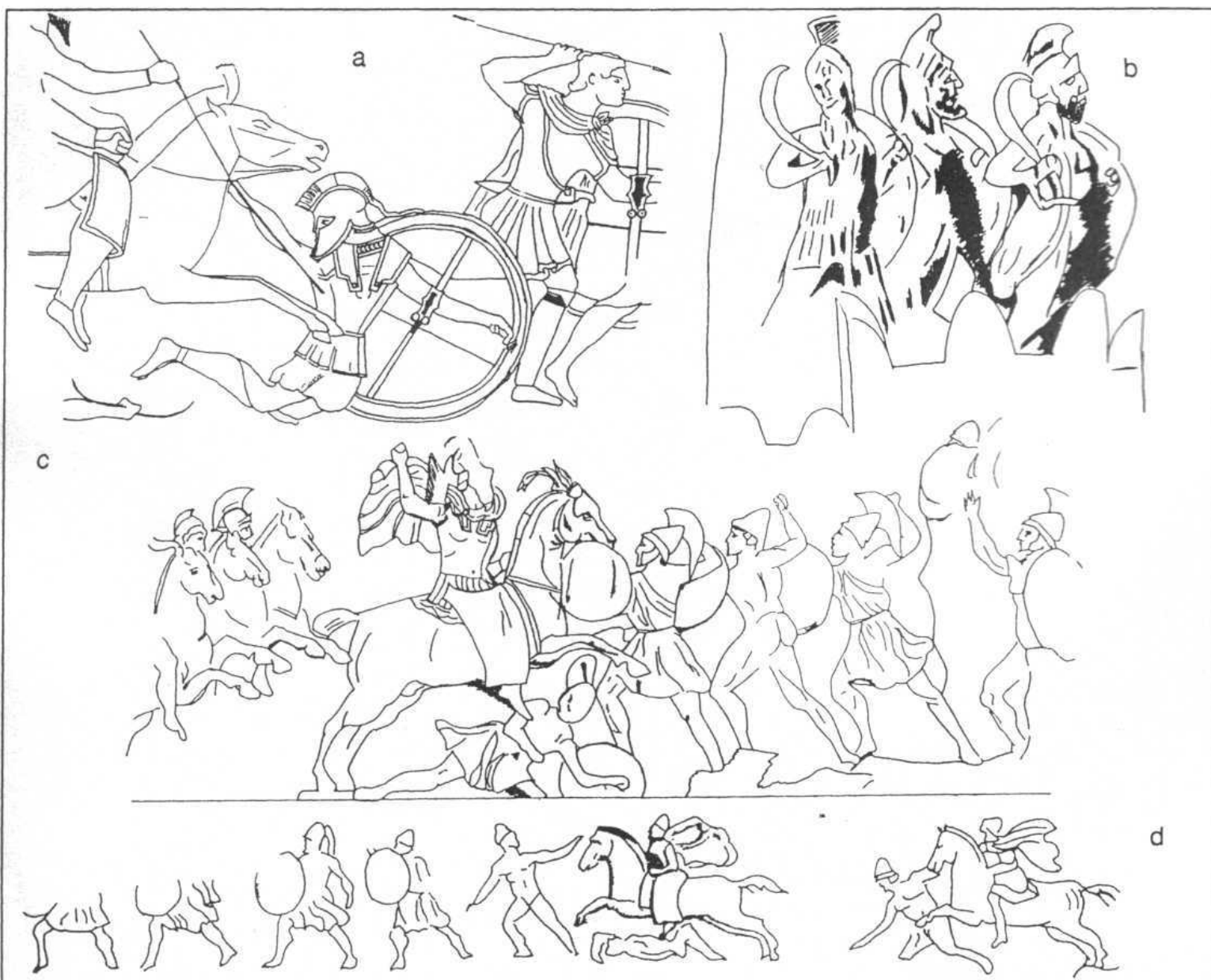




Figure 44: The appearance of Greek soldiers is well known from Greek art; these illustrations (except the last) come from Lykian sculptures, so they are representative of the Greek mercenaries who fought both for and against Persia. (Though native Lykians did use items of Greek equipment, so some of these figures may be Lykians equipped in Greek style.) (a)-(d) Figures from the Nereid monument, from Xanthos; it is usually dated about 400 BC, though a recent study suggests "a date for the Nereid monument before the decade 390-380 is impossible" (W A P Childs and P Demargne, *Fouilles de Xanthe VIII: Le monument des Néréides*, 1989). The monument shows various styles of equipment in use simultaneously. (a) shows, on the left, a hoplite in bronze plate "muscled" cuirass, and on the right an unarmoured hoplite in a helmet with elaborate rams-head cheekpieces. (b) wears the muscled cuirass with a conical pilos helmet. (c) shows three hoplites in crested Attic helmets, the centre one unarmoured and the other two in linen cuirass with pteruges. Note the unusually long tunics. (d) shows a clash of hoplites; the pair on the right have old-fashioned Corinthian helmets pushed back on their heads, and one has a protective apron hanging from his shield. (e)-(h) are from the heroon of Trysa (385-370 BC). In (e), an officer in triple-crested helmet and short cuirass with pteruges at the waist urges on hoplites with crested pilos helmets. The officer (f) has the same helmet, but with a muscled cuirass. The trumpeter (g) is unarmoured except for a pilos. (h) shows a group of hoplites in pilos helmets assaulting a wall with defenders in both Persian and Greek dress. (i) is a hoplite from the early fourth-century heroon of Perikles, ruler of Limyra. He wears a "Phrygian-skulled" helmet and, unusually, long tunic sleeves. Finally (j) is a peltast from an Attic calyx krater by the Geneva Painter, second half of the fifth century, showing Greeks fighting Amazons. Greek peltasts are quite rare in art considering their tactical importance; this one wears a crested Attic helmet and high Thracian boots, and has the classic pair of javelins and crescent pelta, apparently made of uncovered wicker.

Herodotos' account of the Lykian marines in 480 - "wearing cuirasses and greaves, carrying bows of cornel-wood, unfeathered arrows and javelins... goatskins slung round their shoulders and caps set round with feathers on their heads... daggers and *drepana*" - unfortunately bears little relation to artistic depictions of Lykian troops, though infantry in one scene on the Heröon at Trysa do carry *drepana* (see Figure 43b and Plate 7B). Lykian nobles and cavalry appear in both Greek and Persian styles of equipment; most of the infantry wear Greek equipment and may be Greek allies or mercenaries, not Lykians. Some idea of native infantry equipment is given by figures from the Karaburun II necropolis, who carry Greek hoplite shields but have clothing and weapons of distinctive local patterns (see Figure 43a and Plate 5A). Unarmoured figures on other monuments, with Greek shields and helmets, could be similar native Lykian troops.

The Greeks

Greeks served in Persian armies in two capacities. Levies from the Asian cities subject to Persia served in Cambyses' invasion of Egypt - though he did not take them on his abortive march against Kush - and guarding Darius' bridge over the Danube during his Scythian invasion. They served in Xerxes' fleet in 480 BC. For most of the next century, the Ionians were outside Persian control; but they were recovered by the King's Peace of 386 BC, and sent 6,000 hoplites for the Egyptian invasion of 351 BC.

The employment of Greek mercenaries was much more important in Persian military history. The first significant use of mercenary Greek troops may have been about 416 BC by the satrap Pissothnes of Lydia, who relied on a Greek force to support his revolt. He was betrayed by the commander of the mercenaries - unusually, since one of the advantages of Greek mercenaries was that they were generally loyal to their Persian paymasters. Two notable examples are the willingness of the "Ten Thousand" to march into the heart of Asia with Cyrus the Younger, although they had been hired under false pretences for a completely different campaign, and the loyalty to Darius III of 2,000 Greeks even after his final defeat at Gaugamela.

After Pissothnes' time, a substantial contingent of Greek mercenaries was an essential part of most Persian armies, in the western provinces at least: "None of them engage in a war without the assistance of the Greeks, neither when they wage war against each other nor when the Greeks take the field against them; but against Greek enemies they understand that wars must be conducted only with the assistance of the Greeks themselves". So says Xenophon at the end of the *Kyropaidia*. His reference to Persians waging war against each other refers to the frequent satrapal revolts, since most of the western satraps maintained a Greek mercenary force; his reference to the use of Greeks against Greeks reflects his own experience in the Spartan war against Persia in the 390s, when Greek mercenaries were seen on the Persian side. Forces of 20,000 or 30,000 Greeks are frequently mentioned in the fourth century.

Most of the Greek troops employed were hoplites, both because they were the typical Greek soldier and because they made up the effective heavy infantry which Persian armies lacked. But Cyrus the Younger's "Ten Thousand" also included a substantial force of peltasts and a few Cretan archers. Iphikrates, the great Athenian commander of mercenary peltasts, was employed by Persia for one of the attempted reconquests of Egypt. Diodoros places here his account of Iphikrates' reform of peltast equipment - creating an infantryman with a light shield but a long spear - and this has been interpreted to suggest that the reform was associated with this campaign. This is possible, but even Diodoros does not explicitly say when these reforms occurred, and there is to be no supporting evidence for such troops actually serving in any army of the period.

The army on campaign

The Achaemenid approach to warfare was marked by a high degree of organization and planning - indispensable in mobilising the forces of such a vast and heterogeneous state. There were traditional mustering-points, *sylogoi* to the Greeks, where armies would assemble at the start of a campaign. Thus Cyrus the Younger was appointed commander "of all those whose *sylogos* was *Kastollou*

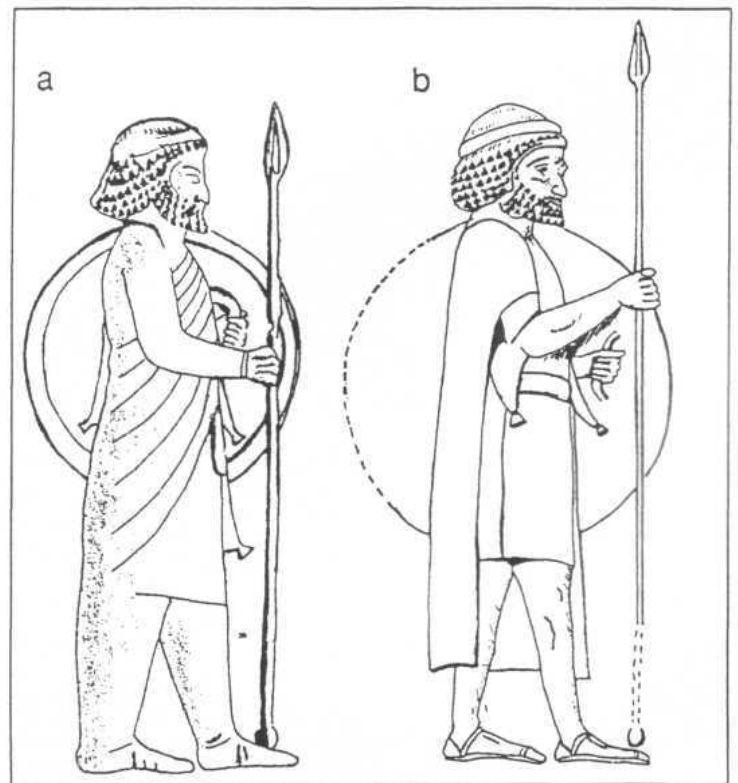
pedion", a plain east of Sardis; this presumably meant all the troops of western Anatolia. Ake in Palestine was the standard starting-place for campaigns against Egypt, so perhaps was another *sylogos*. The armies were numbered, according to Herodotos by herding them 10,000 men at a time into an enclosure.

Herodotos describes Xerxes' order of march when he left Sardis in 480 for the invasion of Greece. The baggage train led - which would hardly be the case in hostile territory - followed by the army, in no good order but all mixed together. In the middle was the Great King in his chariot surrounded by his guards, and preceded by ten sacred Nisaian horses and the sacred chariot of Ahura-Mazda. (Quintus Curtius has a similar account of Darius III's march before Issos - possibly branded as anachronistic by the presence of the Immortals - which has the column led by magi and fire-altars, then the cavalry, the king and his guards, the baggage, and the infantry.) It is worth noting that Xerxes' army, except the guards, was marching "not according to their divisions, but all mixed together"; Cyrus the Younger was taken by surprise before Kounaxa because he had "only a few regular formations" in front of his chariot; "most of the army was marching in no sort of order". Poor march discipline seems to have been characteristic of Persian armies.

The baggage train of a Persian army was enormous. Some of it was carrying luxuries rather than military necessities; the native Persians (perhaps just the nobles, or the Immortals) were accompanied by their servants and their women in covered carriages, and by pack-animals carrying special food separate from that of the army. The King himself had a luxurious tent "full of many treasures, luxurious furniture, and lavishly dressed servants... the basins, the pitchers, the baths... were all made of gold and elaborately carved... marvellously fragrant with spices and perfumes" (Plutarch, *Alexander* 20, describing Darius III's tent taken after Issos - and this was merely what remained after the heavy baggage had been left at Damascus). The camp taken after Plataia was just as luxurious, even in the absence of the King - "tents full of gold and silver furniture... bowls, goblets and cups, all of gold". And in addition the King, at least,

campaigns with a substantial treasury. But much of the impedimenta of a Persian army was practical. Great trouble was taken over the commissariat. Where possible, supplies were gathered ahead of the army, and supply-dumps established as they were in Thrace and Macedon for Xerxes' force. Even in times of peace, the Achaemenids had an elaborate bureaucratic system for issuing supplies to officials, workers and soldiers - "even in Persia itself, virtually everyone, even the highest, was on a regular ration-scale" (Lewis 1977) - the military commissariat was an extension of this practice. Sometimes supplies might simply have been made available for the troops to buy; Cyrus the Younger's Greek mercenaries were expected to buy provisions from a market in camp (though it was said that wagon-loads of barley and wine were being carried, to be issued if purchasable

Figure 45: Weapon-bearers of unidentified nationalities from Persepolis tributary groups. (a), from delegation 21, has Median tunic, trousers and shoes, a fillet or head-ring, and a wrap like that of the Indian delegation leader. Schmidt (1970) thinks delegation 21 may be Sarangian, though they do not resemble the Sarangai on the royal tombs (Figure 19b). If they are Sarangai or other eastern Iranians, they are the only evidence that some east Iranian infantry may have fought with spear and shield. (b) is from delegation 14, in tunic, cloak and sandals. The humped bulls in their tribute suggest an eastern origin, and the weapons suggest a significant military rôle; Schmidt, Walser (1966) and others suggest Gandarians, though Figure 33b is very different.



supplies were not to be found). We read in Babylonian tablets of soldiers being given money for provisions when they were enlisted, perhaps for a similar arrangement.

Whether employed on essential tasks or on luxuries, the number of camp-followers with an army could be enormous; Herodotos estimated that in 480 the non-combatants were more numerous than the fighting-men. Each cavalryman would have a groom - Xenophon expected that horses would be saddled and bridled for their riders (*Anabasis* III.4), as well as the riders being helped to mount. Karian baggage-carriers with javelins played a part in the fighting at Kounaxa; some of the vast hordes of infantry claimed to exist in Persian armies might have been similar half-armed camp attendants.

Baggage was carried both in wagons - there were 400 with Cyrus the Younger's army, carrying food - and on pack-animals. The braying of donkeys in Darius I's train is said to have upset the Scythian cavalry horses. Camels were also common: Cyrus the Great improvised a camel corps against the Lydians from animals in the baggage train; Xerxes found that as he marched through Thrace, his baggage-camels more than the other animals in the army's train were prey to lions; and Agesilaus captured camels from Tissaphernes in Karia in 395 BC.

Sometimes Persian armies would fortify their camps. The camp at Plataia was defended with a wooden palisade, which the Spartans initially had trouble assaulting. But this may have been unusual; Darius III's camp before Gaugamela had no defence works, and his army slept in their battle-formation.

Persian strategy was often cautious and methodical - the size of the armies and their cumbersome baggage trains would have ruled out much rapid marching. Generals were not given much freedom of action: "Indeed, it is the usual custom for Persian commanders, not being independent in the general conduct of war, to refer all matters to the King and await his replies concerning every detail". Thus Diodoros (XV.41), claiming that Pharnabazos' slow approach to the Egyptian campaign of 374 BC allowed the Egyptians time to prepare. The

Lydian satrap Tiribazos certainly thought it would be "unsafe" to make a major strategic change without the consent of the King (Xenophon, *Hellenica* IV.8.16); but the committee of satraps who planned the battle of the Graneikos seem to have made their plans, and committed their army to battle, without consulting Darius III.

The army in battle

Herodotos claims (I.103) that the Median king Kyaxares was the first to divide Asiatic armies into separate units of spearmen, archers and cavalry; before that, they had fought mixed together in a mob. Asiatic armies before Kyaxares clearly were not just armed mobs, and it is unlikely even that Median armies were. Herodotos' statement may conceal a tradition that the Medes did not use the mixed units of spearmen and archers characteristic of Assyrian and Neo-Babylonian armies. Nonetheless, their Persian successors seem to have owed a great deal to that tradition.

A Persian army drawn from the whole empire would be led by the King, and his traditional position was in its centre, surrounded by his guards. We see both Cyrus and Artaxerxes fighting in this position at Kounaxa, and Darius III at both Issos and Gaugamela. Normally the King would not lead the attack, but remain to direct the army; generals of lower status were more likely to lead a charge, as Cyrus the Younger did at Kounaxa and the various satraps at the Graneikos. Cyrus, and possibly the Graneikos commanders, seem to have made a deliberate attempt to seek out and kill the enemy commander. Darius III, before his accession, similarly defeated a Kadousian revolt by killing the leader in single combat.

Persian generals preferred to pick their battlefield, and to do what they could to improve it. Mardonios chose his position at Plataia because Boiotia was better cavalry country than Attica, while presenting supply difficulties to the enemy, and secured his position by palisading his camp. Darius III drew up behind a river-line at Issos - a favourite Persian defensive position - and reinforced the lower sections of the riverbank

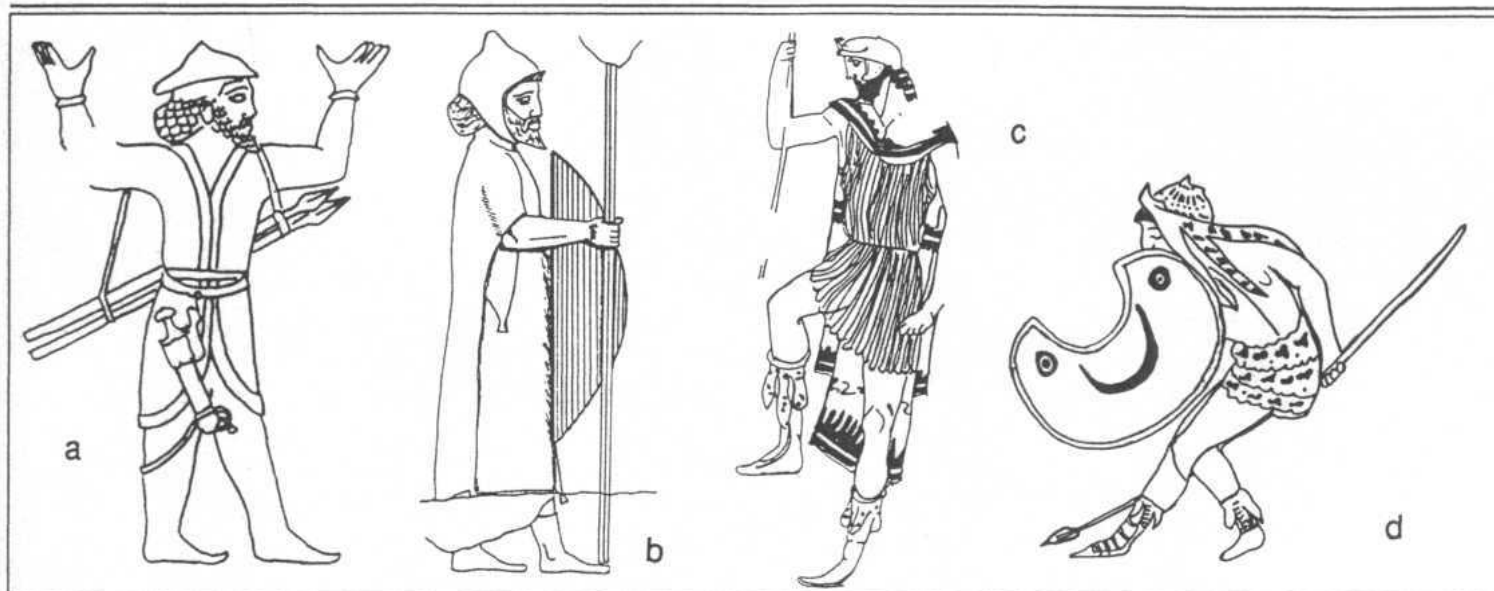


Figure 46: Thracians - The Persian empire included the Asiatic Thracians of Bithynia, and for a while also European Thrace, which was called Skudra. (a) is the Skudra throne-bearer from Persepolis tomb I. He wears a Saka coat and akinakes (the Skudra on some tombs lack the akinakes, carrying only javelins), recalling Thucydides' claim (II.96) that the north-Thracian Getai fought as Scythian-style mounted archers; Darius I conquered the Getai and conscripted them for the Scythian campaign. The hat may be the Macedonian petasos; other Skudra wear Saka-style caps. (b) is a Skudran tributary from the Apadana, in more typical Thracian dress. Herodotos describes the Thracians (VII.75) in foxskin alopekis caps, tunics, multi-coloured zeira cloaks, and fawnskin boots, and armed with javelins, daggers and pelte shields. This figure fits the description; he wears one of several cap styles seen on Thracians in Greek art, though his round, convex wicker shield is less typical. (c), from an Attic krater by the Naples painter, 450-425 BC, shows typical patterns on the cloak, and the style of foxskin cap Herodotos may have meant - made from a fox's scalp, with the ears visible. (d) has another style of cap common on Thracians in Greek art; the dappling may represent cowhide. He has a typical blazon on his crescent pelte, and a thrusting spear instead of javelins.

with a palisade. At Gaugamela, he cleared a wide plain to give a clear battlefield for his cavalry and scythed chariots.

While Greek armies before Alexander generally deployed in one line, we often see the Persians in two. In some cases, as at Issos, this may have been forced on them by constricted battlefields. In others, as when Orontas of Armenia held the river Kentrites against the Ten Thousand, or at the Graneikos or Gaugamela, the first line was mostly or entirely cavalry, with infantry behind. Except at the Graneikos, a consciousness of the poor quality of the infantry might explain this; at the Graneikos, the Persians may have planned to swamp the outnumbered Macedonian cavalry before the enemy infantry came up.

The early Persian infantry were primarily archers, who formed up behind their walls of wicker mantlets, but at least some of whom were equipped for close combat with spears and cuirasses. Their tactics were to weaken an enemy as much as possible with concentrated archery-fire before coming to close quarters. Other infantry were deployed in line beside these Persian archers, though there is some

doubt about whether all the troops thus deployed were trained or equipped well enough for that task. But the deployment before Plataia listed in Herodotos IX.31 does suggest that some lighter-equipped contingents were not deployed in the line of battle.

Cavalry, though important, seem to have been an auxiliary to the main infantry arm. They were unable to defeat Greek hoplites on their own, and equally unable to venture unsupported against Scythian cavalry - though the Scythian numbers may have been the main reason for that. (In contrast, the Scythian cavalry were reluctant to come within bowshot of the Persian infantry.)

According to Asklepiodotos' Hellenistic tactical manual, Persian cavalry squadrons normally deployed in square formations, as many ranks deep as files wide. Their decimal organization might suggest a hundred-man squadron ten ranks deep, though this might be too deep for cavalry to be really useful. (Diodoros records the royal guard cavalry at Gaugamela all drawn up together in one outsize squadron of one thousand men, but this was obviously not

typical.) Xenophon (*Hellenica* III.4.13) records a cavalry near Daskylion in 396 BC, between Persians in a column "with a frontage of not more than twelve, but many more deep" and Greeks in a four-deep line; this was a surprise encounter, and the Persians may have been in column of march.

One cavalry squadron charged in a wedge formation at the Graneikos (Arrian I.16, Diodoros XVII.19); this was of forty "royal kinsmen", led by the king's son-in-law Mithridates, riding ahead of the main Persian cavalry force. This is an isolated reference; the wedge may have been improvised, or meant specifically to break up the opposing Macedonian formation, causing disorder that could be exploited by supporting troops.

Persian cavalry fought against Greek infantry by riding up in successive squadrons, harassing them with arrows and javelins and then wheeling away, as in the early stages of Plataia. But, as when they attacked their own Phokian allies (Herodotos IX.18) this tactic failed to break up hoplite formations. The Persian cavalry tried to develop tactics for fighting them at close quarters. At the defeat of the Cypriot revolt about 496 BC, the Persian general Artybios rode a horse "trained to fight with hoplites by rearing up" in order to kick at the opponent; in the event, the Salaminian king Onesilos caught the blow on his shield, and his Karian shield-bearer sheared off the horse's legs with his *drepanon*. Masistios, leading the Persian cavalry at Plataia, led his men dangerously close to the Greek hoplites; and though the cavalry came close to breaking part of the Greek line, when Masistios' horse was shot and threw him he was close enough to the Greeks to be rushed by hoplites.

In the fourth century, Persian cavalry seem to be more important than before; at both the Graneikos and Gaugamela, the Persians tried to win their battles with cavalry. They may have relied more on cavalry because of the repeated failures of Persian infantry to stand up to Greek hoplites. In these later battles, we hear less of cavalry skirmishing and more of charges to close quarters. This may be because we hear more of cavalry fighting cavalry (Persians against Persians at Kounaxa, or against Macedonians), though Tissaphernes

rode straight through Greek peltasts at Kounaxa. Against other cavalry, Persian cavalry tended to throw both their javelins and close with sword and axe. The new units on armoured horses would deploy in the front of the army, to open the battle with a charge to contact. At Kounaxa, Cyrus charged thus with his bodyguard, hoping to kill Artaxerxes; at Gaugamela, the attack of the heavy Massagetai was combined with an attempt by lighter cavalry to outflank the Macedonian right.

With the decline of the closely-formed archers of the early armies, most later Achaemenid armies relied on Greek mercenary hoplites for the core of their infantry line. They might be supported by local troops, such as the *kardakes* and peltasts at Issos, or the Egyptian "hoplites" in Artaxerxes' line at Kounaxa. Despite the decline of infantry archery, Achaemenid infantry were still often used defensively.

Light infantry, mostly archers and slingers, can be found skirmishing in front of the army to screen its deployment, as at Issos, or harassing enemy on the march. At Gaugamela, the native Persian contingent consisted of mixed infantry and cavalry; we are not told the infantry's numbers or equipment. Xenophon (*Kyropaidia* IV.5.58) mentions Cyrus equipping freed slaves with swords and shields to follow the Persian cavalry. Unfortunately, there is no reference to such troops actually in use before Gaugamela, and Xenophon's fondness for *hamippoi* (light infantry trained to support cavalry, whose use he recommends elsewhere) is probably running away with him. The Persian mixed force at Gaugamela may in fact have been inspired by Greek and Macedonian examples.

Orders of battle

This section gives some army compositions recorded by Greek historians - no Persian source lists any. Not all the numbers quoted may be reliable; the Greek tendency to exaggerate "barbarian" numbers is well known.

Xerxes' invasion force, 480 BC

The army that Xerxes took to Greece is listed by Herodotos (VII.60-97; VII.40-41 for the guards).

It has been suggested (Sekunda 1989) that this passage is a fiction, copied and expanded from a list of Persian possessions which Hekataios used to impress the leaders of the Ionian Revolt (Herodotos V.36). But S West (in "Herodotus' portrait of Hecataeus", *Journal of Hellenic Studies* CXI, 1991) points out that Hekataios' part in the Ionian revolt may itself be a rhetorical device of Herodotos - so the catalogue Herodotos is supposed to be copying may never have existed! The Herodotean list has its problems, but it fits the known Persian policy of levying troops throughout the empire, as in Darius' Scythian campaign, and is not seriously contradicted by accounts of the campaign. I therefore assume it is broadly reliable.

Infantry forces

<i>Unit</i>	<i>Nations</i>	<i>Equipment</i>	<i>Commander</i>
1,000	Picked Persians "with spears reversed"		
1,000	Noble Persian "Apple-bearers"		
10,000	Immortals	<i>Sparabara</i>	Hydarnes
I	Persians	<i>Sparabara</i>	Otanes
II	Medes	<i>Sparabara</i>	Tigranes
III	Kissians	<i>Sparabara</i>	Anaphes
IV	Hyrkanians	<i>Sparabara</i>	Megapanos
V	Assyrians, Chaldaeans	Hoplites Archers?	Otaspes
VI	Baktrians, Saka	Bow/spear Archers?	Hystaspes
VII	Indians, "Asiatic Aithiopians"	Archers	Pharnazathres
VIII	Areians	Bow/spear	Sisamnes
IX	Parthians, Chorasmiens	Bow/spear	Artabazos
X	Sogdians	Bow/spear	Azanes
XI	Gandarians, Dadikai	Bow/spear	Artyphios
XII	Kaspian	Archers	Ariomardos
XIII	Sarangai	Bow/spear	Pherendates
XIV	Paktyes	Archers	Artayntes
XV	Outioi, Mykoi	Archers	Arsamenes
XVI	Parikanioi	Archers	Siromitres
XVII	Arabs, Aithiopians	Archers Bow/spear	Arsames
XVIII	Libyans	Javelins	Massages
XIX	Paphlagonians, Matieni	Javelins	Dotos
XX	Mariandynoi, Ligyes		
XXI	Kappadokians	Javelins	Gobryas
XXII	Phrygians, Armenians	Javelins	Artochmes
XXIII	Lydians, Mysians	Hoplites Javelins	Artaphrenes
XXIV	Bithynians	Javelins	Bassakes
XXV	Pisidians ¹ , Kabelees, Milyai ²	Javelins	Badres
	Moschoi, Tibarenoi	Spears	Ariomardos

XXVI	Makrones, Mossynoikoi	Spears	Artayctes
XXVII	Mares, Kolchians	Javelins	Pharandates
XXVIII	Alarodioi, Saspeires	Spears	Masistios
XXIX	Persian Gulf "Exile" islanders	<i>Sparabara</i>	Mardontes

Cavalry forces

<i>Unit</i>	<i>Nations</i>	<i>Equipment</i>
1,000	Picked Persians (marching before Xerxes)	
1,000	Picked Persians (marching behind Xerxes)	
I	Persians, Sagartians ³	Armour, bow, spear Lasso
II	Medes	Armour, bow, spear
III	Kissians	Armour, bow, spear
IV	Indians	Cavalry and chariots
V	Baktrians	Bow, spear
VI	Saka ⁴	Bow
VII	Libyans	Chariots
VIII	Kaspian	Bow
IX	Parikanioi	Bow
X	Arabs	Camel-mounted archers

Naval forces⁵

<i>Unit</i>	<i>Nations</i>	<i>Ships</i>	<i>Marines</i>
I	Phoenicians, Palestinians	300 ships	Javelins
II	Egyptians	200 ships	Hoplites
III	Cypriots	150 ships	Hoplites
IV	Kilikians	100 ships	Javelins
V	Pamphylians	30 ships	Hoplites
VI	Lykians	50 ships	Bows, javelins
VII	Dorian Greeks	30 ships	Hoplites
VIII	Karians	70 ships	Hoplites
IX	Ionian Greeks	100 ships	Hoplites
X	Greek islands	17 ships	Hoplites
XI	Aiolian Greeks	60 ships	Hoplites
XII	Pontic Greeks	100 ships	Hoplites

- 1 The name "Pisidians" does not appear in the manuscripts; it is a likely correction to fill a gap.
 - 2 Some of the Milyans carried Lykian bows, either instead of or as well as their spears.
 - 3 The Sagartians drew up with the Persians; otherwise, it is not clear whether each nation's cavalry were a separate unit or whether the Baktrians and Saka, or the Kaspian and Parikanioi, were brigaded together.
- Individual commanding officers are not mentioned for the cavalry contingents; three overall commanders are given instead (Harmamithres, Tithaios and Pharnouches, the third in fact being injured and left behind).

4 The text does not list Saka here, but names the Kaspioi. Since these are mentioned again a couple of sentences later, the duplication is a mistake. Saka cavalry are mentioned fighting at Plataia, so their absence from the list is also a mistake; probably the first "Kasioi" should be "Saka".

5 In addition to the native marines, each ship carried thirty Persian, Mede or Saka infantry.

On the march through Europe, Xerxes added troops from subjugated nationalities: Thracians, Paionians, Macedonians, and several of the states of northern and central Greece.

The size of the army has provoked much debate. Herodotos reports (VII.60) that the infantry were counted, and numbered 1,700,000 (about 60,000 for each of the 29 listed contingents); the cavalry (VII.87) were 80,000, plus the camels and chariots whom he elsewhere (VII.184) reckons at 20,000. To this must be added camp followers and non-combatants, and the European troops picked up on the march; Herodotos' own grand total, including army, navy and camp-followers, is 5,283,220!

Modern scholars generally reject this out of hand. One line of reasoning (followed by Cook (1983)) suggests that each of the 29 infantry units was the same strength as the 10,000 Immortals, giving the army 300,000 foot. This is a vast force for the period; but it is clear that Xerxes' army *was* unusually large. Herodotos reports (VII.20) that it took four years to prepare, and he emphasises both the effort put into supplying the army and the difficulties it still encountered, with rivers being drunk dry on the line of march, and Mardonios' reduced army still experiencing supply shortages.

Smaller figures than 300,000 have been argued on logistic grounds. Young (1980) discusses an earlier estimate that the roads and the water-supply could support at most 210,000 men and 75,000 animals, but concludes that even this would put an intolerable strain on supply arrangements. He calculates such an army would need 84 supply ships in continuous operation to deliver grain, and does not believe that so many ships could have been provided.

I suggest another approach. The discussion of the army at Plataia, below, shows that the differing frontages of the Persian contingents rule out any uniformity of numbers - the Medes

were drawn up to face 8,900 Greeks, the Saka and Baktrians (who made up one contingent together in 480) faced 5,400, but the Indians a mere 1,300. The Medes at least had already fought, and taken casualties, at Thermopylai; but a Median force that could be matched against 8,900 Greeks would be compatible with an original strength of 10,000 at the start of the expedition, which fits with known Achaemenid decimal organisation. So perhaps the most important infantry contingents of Xerxes' army were 10,000 strong - the Persians themselves, the Medes, and perhaps a few others.

But other contingents must have been smaller. The Baktrian-Saka force that faced 5,400 Greeks might have started the war 5,000 or 6,000 strong; the Indians will hardly have started more than 2,000 strong.

So an approximate original strength for Xerxes' infantry might be:

Immortals	10,000
Other guards units	2,000
Perhaps five major contingents (Persians, Medes, Hyrkanians, Kissians, Lydians-Mysians?) @ 10,000	50,000
Half the remaining 24 contingents @ 5,000	60,000
The others @ 2,000	24,000
Infantry total	146,000

(The Lydians are a possible large contingent because the story of Pythios (Herodotos VII.38-39) suggests an oppressively thorough levy.)

As for cavalry, Herodotos VII.41 cites 10,000 Persians, as well as the guards units. If, as with the infantry, other national contingents were smaller, total cavalry strength may not have exceeded 40,000.

Plataia, 479 BC

Just as there is no generally agreed figure for Xerxes' invasion force, there is no agreed figure for the part of it that was left in Greece under Mardonios. Herodotos says it was 300,000 strong; but this is again too high, judging both

from the course of the battle and from considerations of supply. But Herodotos' description of the Greek and Persian battle-lines, as they drew up opposite each other some days before the main battle (IX.31), allows an estimate. He lists which units in the Persian infantry line faced which Greek contingents, and gives the strength of each Greek body.

If the Persians were drawn up in the same depth as the Greeks, it would be easy to calculate the size of each Persian unit. Unfortunately, neither side's depth is certain. Herodotos does say that on the Achaemenid left the native Persian troops, "as they greatly outnumbered the Lakedaimonians, were drawn up in greater depth than usual".

But we can deduce the size of the Persian infantry contingent; it was the Immortals and "the Persian *doruphoroi*" (Herodotos VIII.113). *Doruphoroi* - spear-bearers - is the term used for the two thousand-man guard units, so one or both of these guards units joined the Immortals at Plataia, while the main Persian infantry contingent presumably went home with Xerxes. So the native Persian infantry at Mardonios' disposal *must* have numbered 11-12,000 - and the 10,000 Lakedaimonians and 1,500 Tegeians opposite the Persians were hardly in fact "greatly outnumbered". The Persian force was roughly comparable in size to the Greek force it faced. We can therefore assume that other units in the Persian line were roughly equivalent to their Greek opponents; so the following table suggests a possible breakdown.

<i>Persian unit</i>	<i>Greek opponents</i>	<i>Size?</i>
Persian guards units	10,000 Lakedaimonians and 1,500 Tegeians	12,000
Medes	Corinthians, Sikyonians, etc: 8,900	9,000
Baktrians	Epidaurans, Troizenians, etc: 3,400	3,500
Indians	Eretrians, etc: 1,300	1,300
Saka	Ambrakiots, Aiginetans, etc: 2,000	2,000
Allied Greeks	Athenians, Plataians, Megarans: 11,600	12,000
Subtotal:		39,800

(The allied Greeks were Boiotians, Lokrians, Thessalians, Malians, 1,000 Phokian hoplites, and Macedonians.)

Other infantry contingents:

"A sprinkling of" Phrygians, Mysians, Thracians, Paionians; Aithiopians and Egyptian marines (from an original 200 ships, perhaps 2,000 men less shipwreck losses).

Cavalry:

Picked Persian cavalry: 1,000 (Herodotos VIII.113); Median, Saka, Baktrian, Indian mounted troops; Boiotian (likely to be less than 1,000) and probably Thessalian cavalry.

The infantry contingents that were present but not deployed in the line were all, except the Egyptians, lightly equipped. They may therefore have been facing off the numerous Greek light troops, or may have been off foraging or escorting supply convoys.

Figures for these additional infantry, and for the cavalry, are much more tentative than for the main battle line; but an overall figure around 45,000 infantry and 15,000 cavalry might be an acceptable approximation.

Kounaxa, 401 BC

Xenophon gives an idea of the strength of both forces at Kounaxa. Cyrus' army was as follows:

Greeks:	10,400 hoplites 2,500 Greek and Thracian peltasts 200 Cretan archers
Asiatics	"100,000", including: - 600 bodyguard cavalry - 1,000 Paphlagonian cavalry - Cavalry on the left wing - 20 scythed chariots

(*Anabasis* I.7, supplemented by I.2 and I.8.)

Artaxerxes' army was claimed to be 1,200,000 men with 200 scythed chariots (though only 900,000 men and 150 chariots were actually present: *Anabasis* I.7). The following units are recorded in I.8, in order from the left wing:

- 1 Armoured cavalry under Tissaphernes; enough men to charge through 2,500 peltasts, no doubt including the 500 with whom he fled to the King (I.2).
- 2 *Gerrhophoroi* - perhaps lightly-armed spearmen, possibly Persian *sparabara*

- 3 Egyptian hoplites
- 4 Cavalry and archers. These may be the 6,000 cavalry around the King, under Artaxerxes (I.7), described in Plutarch's *Artaxerxes* as leader of the Kadousians.

Plutarch also mentions Karian camp-followers with javelins taking part in the fighting.

Autophradates in Kappadokia, 367 BC

Nepos' *Life of Datames* (VIII.2) records that Autophradates, campaigning against Datames' rebellion in Kappadokia, led 20,000 cavalry and the following infantry:

100,000 *kardakes*
 3,000 slingers "of the same kind"
 8,000 Kappadokians
 10,000 Armenians
 5,000 Paphlagonians
 10,000 Phrygians
 5,000 Lydians
 3,000 Aspendians and Pisidians
 2,000 Kilikians
 2,000 "Captiani" (Kaspian?)
 3,000 Greeks

The infantry total 151,000, plus "a very great number" of light troops. These latter may be a conventional rhetorical flourish; the slingers explicitly mentioned must have been light troops, and many of the other Anatolian infantry are likely to have been lightly equipped, so there may have been no "light troops" other than those included in the main list. For the *kardakes* and the slingers, see "Later infantry developments" above.

Sekunda (1988a) points out that the army contains a Kappadokian contingent, though recruiting Kappadokians should have been impossible because of Datames' revolt; and other Anatolian troops listed would be difficult to recruit, because the revolt had cut them off. He therefore suggests that the army must have been already raised, perhaps for the Egyptian campaign which Datames himself had commanded until the previous year.

The invasion of Egypt, 351 BC

Diodoros (XVI.47; see also 44) describes

Artaxerxes III's army for an unsuccessful attempt to reconquer Egypt in 351-350 BC. Three of its four divisions had both a Greek and a Persian general. The army unusually included a substantial force of Greek citizen troops, supplied by Thebes and her allies.

- 1 Lakrates with 1,000 Theban hoplites; Rhosakes, with "barbarian" cavalry and infantry.
- 2 Nikostratos with 3,000 Argive hoplites; Aristazanes. In total 5,000 "picked troops" and 80 triremes.
- 3 Mentor and Bagoas, with 6,000 hoplites from the Greek cities subject to the King in Asia, plus "barbarians" and ships.
- 4 King Artaxerxes, in reserve with the rest of the army.

The Graneikos, 334 BC

There is no detailed list of the Persian forces engaged at Alexander the Great's first victory, on the Graneikos. Arrian (I.14) says the Persians had 20,000 cavalry and nearly that number of Greek mercenary infantry; Diodoros (XVII.19) says over 10,000 cavalry and at least 100,000 infantry.

Diodoros identifies the contingents of the cavalry line as follows, starting on the left wing:

Officer	Contingent	Numbers
Memnon	"His own"	?
Arsamenes	Kilikians	?
Arsites	Paphlagonians	?
Spitrobates	Hyrkanians	2,000
Mithridates	Royal kinsmen	40
?	"Other nations"	?
?	Medes	1,000
Rheomithres	?	2,000
?	Baktrians	2,000

(Memnon's estates were within Arsites' satrapy of Daskylion, so presumably Memnon led some of that satrapy's cavalry. Mithridates' name comes from Arrian, the size of his squadron from later in Diodoros. Mithrobuzanes, satrap of Kappadokia, was killed in the battle, so the "other nations" probably included his province's cavalry.)

Issos, 333 BC

Again, there is no agreement on the size of the Persian army at Issos, nor a full list of units. Arrian and Plutarch claim 600,000 men; Diodoros 400,000 foot and 100,000 horse; Curtius 250,000. Arrian (II.8) and Curtius (III.9.1-6, and III.2.1-9) give the most detailed breakdowns, and can be compared as follows:

Arrian

Curtius

Right wing:

30,000 cavalry;	Nabarzanes' cavalry (the 30,000 Persians?)
20,000 light infantry	20,000 slingers, archers
30,000 Greeks	30,000 Greeks
60,000 <i>kardakes</i>	20,000 infantry; Darius III with 3,000 guard cavalry and 40,000 infantry

Left wing:

20,000 in the hills	10,000 Median and 6,000 Hyrkanian cavalry 6,000 javelinmen, slingers
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Other contingents were deployed behind the main line, but neither writer identifies them.

Gaugamela, 331 BC

Darius III's last great army is the best described since Xerxes' great invasion force; there are lists of units in Arrian, Curtius and Diodoros. The list below draws chiefly on Marsden (1964). Numbers without brackets come from ancient sources, mostly from Curtius who gives strengths for contingents on the left wing; numbers in brackets are estimates. None are ventured for the levies in the second line.

Left wing

100 scythed chariots
1,000 advanced Baktrian cavalry
1,000 Saka (Dahai) cavalry
2,000 Arachosian cavalry¹
8,000 Baktrian cavalry
2,000 armoured Saka (Massagetai) cavalry²

Centre

15 elephants³

50 scythed chariots
(6,000) mixed Persian cavalry and infantry
(1,000) Susian cavalry
(1,000) Kadousian cavalry
(1,000) Mardian archers
(1,000) Karian infantry
(1,000) Indian cavalry
4,000 Greek infantry⁴
1,000 Persian "apple-bearer" footguards
1,000 Persian "kinsmen" horseguards⁵

Right wing

50 scythed chariots
(1,000) Sakesinian cavalry
(1,000) Albanian cavalry
(1,000) Hyrkanian cavalry
(1,000) Tapourian cavalry
(2,000) Saka mounted archers
(2,000) Parthian cavalry
(1,000) Median cavalry
(1,000) Mesopotamian cavalry
(1,000) Syrian cavalry
(1,500) Armenian cavalry
(1,500) Kappadokian cavalry

Second line

Uxian infantry
Babylonian infantry
"Red Sea" infantry
Sitakenian infantry

- 1 Curtius says Arachosians and Susians, but Arrian lists the Susians elsewhere and in III.8 lists the Arachosians and "Indian hillmen" brigaded together. I follow Marsden in assuming that Curtius' 4,000 is a "total so far", giving 2,000 for the Arachosians.
- 2 Arrian's battle narrative mentions that this unit was heavily armoured and rode armoured horses. The same *may* have been true of other troops in similar positions in front of the wings: the 1,000 Baktrians, and the Armenians and Kappadokians on the right.
- 3 The elephants are not mentioned in the course of the battle, and Arrian (III.15) records that elephants were taken *in the Persian camp* afterwards. Perhaps they appeared in the Persian plans for the battle - which fell into Alexander's hands, and on which our accounts of the Persian deployment are ultimately based - but for some reason were not deployed on the day.
- 4 The Greeks were formed up in two bodies. Numbers at the battle are not given but either 2,000 (Arrian III.16) or 4,000 (Curtius V.8.iii) later rejoined Darius.
- 5 Diodoros (XVII.59) mentions "all the household troops of the palace" *as well as* 1,000 "kinsmen" cavalry and the "apple-bearer" footguards.

Captions to colour plates

1 The King's court, late 6th century

A *Guardisman from Susa*

This figure is based on the glazed-brick reliefs of guardsmen from Susa, probably Immortals. Two distinctive colours of dress are shown; one as here, the other white and yellow. They may represent two regimental uniforms.

B *Guardisman in Persian dress*

This figure and the next are based on reliefs of guardsmen from Persepolis. This man wears Persian costume, similar to Figure 1A except for his headgear, which is the fluted cap of a noble; so he may belong to one of the picked "spear-bearer" regiments of Persian nobles. Other figures in the same costume bear spear and bow instead of spear and shield. The shield is the light "violin" shape seen only at Persepolis; it is leather, with an iron boss.

C *Guardisman in Median dress*

The Immortals and other guards units are all described in the Greek texts as ethnic Persians, so the status of the Persepolis soldiers dressed as Medes is uncertain. Perhaps some of the guards unit did indeed mix Persians and Medes, or perhaps Median costume does not always denote ethnic Medes. This man carries a spear, a large bowcase slung from the left side of his belt, and an *akinakes* dagger on the right.

2 Persian infantry, early 5th century

This plate shows the Persian infantry who formed the shield-walls at Plataia and Mykale, the backbone of early Achaemenid armies.

A *Sparabara shield-bearer*

Based chiefly on one of the figures from the Oxford Brygos cup (Figure 9b), he carries the *spara*, a large rectangular shield or mantlet constructed of canes thrust through a leather sheet, in the style of the later Sassanian examples surviving from Dura. The Dura examples bear no trace of colour or decoration, but we have shown the leather of this shield as dyed. He is armed with a spear and *akinakes*, and wears quilted linen body-armour.

B *Archer*

One of the rear ranks of infantry formations, from a Greek vase-painting (Figure 12h). He has a Greek-style stiffened linen cuirass and is armed with a *sagaris*; others carried swords. Greek paintings of Persian archers show the bowcase slung over the shoulder. This may be incorrect, the artists copying Greek practice rather than accurately depicting Persian usage; but it would have been awkward to wear the quiver on a waistbelt over the bulky cuirass.

C *"Immortal" in campaign dress*

This figure attempts to reconstruct the combat dress of an archer of the Immortals. He wears the "Median" costume which Persian infantry wore on campaign, coloured similarly to the robes of one of the Susa guards. He has the bow and quiver worn by Persians at Susa and Persepolis, though this should possibly be replaced by a Median-style bowcase as worn by 2B. The spear was probably carried by the Immortals' archers as well as shield-bearers; note the silver "pomegranate" butt. He wears a scale cuirass; see Figure 17 for sources and styles. The native Persian troops "glittered with gold", and the Persian guards at Plataia wore necklets and armbands. This figure also has gold hilt and fittings for his *akinakes*.

D *Standard-bearer*

This figure is based on an enigmatic Greek vase-painting (see Figure 5b); the costume is difficult to reconstruct with certainty, and even his nationality is not certain. The head-dress seems to be of animal-skin, with the ears still attached; it resembles later Roman standard-bearers' styles. This figure looks a bit wild for a Persian, and his highly decorated clothing is closer to styles used for Scythians in Greek art. But he is using a sword, probably the *kopis* often shown in Persian hands, which is not normal for Scythians. He carries his bowcase unusually on the right hip, perhaps because the scabbard for his sword would hang on the left.

3 Cavalry, early 5th century

A *Persian senior officer*

Inspired by Masistios, cavalry commander at Plataia "riding a magnificent Nisaian charger with a bridle of gold and other splendid

accoutrements", who was hard to kill because of the cuirass of golden scales worn under his scarlet tunic. As well as gilt armour he has the gold torc and bracelets of Persian noblemen and his *akinakes* has a gold hilt and sheath. His purple *kandys* is also a mark of nobility.

B, C *Attendants*

These men wear the two styles of costume shown on servants at Persepolis: Median dress with *akinakes*, and the Persian robe worn with a voluminous headcloth. The Median servant prepares to help his master to mount, in what Xenophon called "the Persian manner"; the other holds the horse, and Masistios' spear.

D *Persian cavalryman*

This is the equipment of the Persian cavalry of Xerxes' army, and of similarly equipped units like the Medes. The costume is based on Greek vase-paintings (Figure 21b), plus the helmet in Figure 17a. He wears scale armour under his tunic, and is armed with a bow, two javelins and a short sword. The sword is based on an example from Persepolis, shown here as worn in the same style as the *akinakes* (some Scythians wore short swords in this way) but it could be worn on a baldric like 2D's *kopis*.

E *Saka Haumavarga horse-archer*

The Saka Haumavarga were the Saka group who provided infantry and cavalry for Xerxes' Greek campaign. This figure's costume is based on the Saka Haumavarga from the Persepolis tombs and from the Apadana. His shirt and the horse-furniture come from the Pazyryk barrows. His weapons are a bow, carried in the same style of case as Persians and Medes used, long and short swords based on those from the Issyk kurgan, and a *sagaris* axe.

4 **Xerxes' levies, 480 BC**

A *Kappadokian infantryman*

The Kappadokians were one of several contingents armed with small shields, short spears, javelins and daggers. Kappadokian throne-bearers at Persepolis wear Median gear, with the *akinakes* dagger; Apadana tributaries identified as Kappadokians add a short cloak fastened with an Anatolian *fibula*. It is possible that the Kappadokians, like their Paphlagonian

neighbours, wore light helmets in battle.

B *Indian infantryman*

The Indians carried cane bows and iron-tipped arrows; later, Alexander's officers were struck by the size and power of the Indian bow. The Indian throne-bearers at Persepolis carry heavy swords, which fit later Greek accounts of the broad-bladed swords used in two-hands by Indian infantry, which appear in Indian art.

C *Egyptian marine*

One of the marines detached from Xerxes' fleet to fight on land in Greece. They wore "plaited" or "netted" helmets, and most of them had cuirasses. Herodotos says that the Persians borrowed the cuirass from the Egyptians, and mentions an elaborate linen cuirass dedicated by one of the last Egyptian pharaohs; so probably one of the patterns of linen cuirass used by Persians was also used in Egypt. The helmet is a mystery; it is here shown quilted in squares in the same style as the cuirass, since the square pattern of the quilting might remind an observer of the meshes of a net. The Egyptians fought with spears - "great spears" Xenophon says, and they are the only spears in Xerxes' forces that Herodotos does not call "short" - or javelins or axes, and swords. They carried "hollow shields with broad rims"; "wooden shields reaching to the feet", says Xenophon of later Egyptian infantry (though shields used by marines on shipboard might perhaps have been smaller and handier).

D *East Iranian infantryman*

This man is dressed in the style of the Areian, Arachosian and Sarangian throne-bearers at Persepolis. Herodotos describes the Sarangai wearing knee-high boots, and looking splendid in brightly-dyed garments. They were armed with bow and Median spear; the Areians also had Median bows and short spears. His *akinakes* has an ivory sheath.

5 **The mid-5th century**

A *Lykian infantryman*

This figure is from paintings in the Karaburun II tomb (Figure 43a), dating about 470 BC. He is unarmoured but protected by a Greek hoplite

shield; he fights with a short spear with blades at both ends, and carries a long dagger on a baldric. The leggings were common in Anatolia; Herodotos (VII.76) describes Pisidian crimson leggings, and see Figure 41a for Lydians.

B Greek hoplite

This man, a defeated enemy in the same source as the last figure, may represent an Athenian or one of their allies. But the Asiatic Greeks subject to Persia would have been identically equipped, and he could be one of the Ionians who had fought in Xerxes' fleet in 480, but were thereafter enemies of Persia. He wears the classic hoplite equipment: a cuirass of stiffened linen, a bronze "Corinthian" helmet of a late style - already losing popularity to lighter, more open types of helmet - and bronze greaves on his legs. He is armed with a long spear and short sword, and the large, round, bronze-faced wooden shield characteristic of the hoplite.

C, D Persian light spearman and archer

These figures are taken from a vase-painting (Figure 27a) probably of the mid-fifth century. They could be mercenaries, but both wear Persian costume, though with baggier caps than usual and with sleeveless over-tunics.

The spearman, C, has a thrusting-spear with a spike on the butt rather than the traditional spherical counterweight. His shield is the same as the Greek or Thracian *pelte*, a crescent shape made of wicker covered with leather. The *pelte* varied considerably in size and proportion, and it is a mistake to suggest that the Persian shield was significantly larger; some Thracian *peltai* are shown larger than this. The archer, D, has the *pelte* slung on his back.

6 The later 5th century

This plate represents a scene at the battle of Kounaxa in 401 BC.

A Babylonian colonist cavalryman

A reconstruction of the Babylonian Jewish cavalryman Gadal-Iama, from an equipment list of 422 BC. He requested: "a horse with girth and reins, a saddle-cloth, an iron corselet, an armoured headpiece, a cloth neck-protector, a cloth hat, a leather shield covered with

bronze, 120 "ready" arrows, 10 "reserve" arrows, an iron boss for a leather shield, two iron spears, and a mina of silver for provisions". There are several possible meanings for the two types of arrow; the term for spear is *azmaru*, used for the heavy Assyrian thrusting-spears. Note that neither a bow nor a sword is included; but since the list is of the equipment Gadal-Iama asks the Murasu bank to provide, it may not include items he already owned. This figure therefore carries a short sword and a cased bow. He is shown as if called out to serve Artaxerxes at Kounaxa, with a white tunic over his armour; the army was mobilised in Babylonia, so the participation of local troops is quite likely.

B Bodyguard of Cyrus the Younger

This figure is based on Xenophon's descriptions of Cyrus' bodyguard, in *Anabasis* I.8 and *Kyropaidia* VII.1. He has a cuirass under his red tunic, bronze helmet and *parapleuridia*. The guards' javelins, bracelets and necklets, embroidered trousers and purple *kandys* (which would not be worn in battle) are mentioned elsewhere in the *Anabasis*. The figure's general appearance, including the Greek *pilos* helmet, is suggested by the seal shown in Figure 26b and by the Yeniceköy relief in Figure 26a. The sheer size, and the rigid appearance, of the thigh-guards suggest that they were attached to the saddle; and they seem to have a rigid frame. No source gives much clue as to how they were constructed, except that they were bronze; pieces of solid bronze plate this size would be unprecedented, so a construction of bronze scales or segments seems most likely. The horse-armour is based on the later Pergamon example (Figure 25d), which may show the Persian style of *lamnae* mentioned by Curtius; the thigh-guards have been shown as matching.

C Greek mercenary hoplite

This unarmoured hoplite, in an Attic helmet, is taken from the Nereid monument (Figure 44). The Greeks of the Ten Thousand who fought for Cyrus at Kounaxa "all wore bronze helmets, red tunics and greaves, and had their shields uncovered" (Xenophon, *Anabasis* I.2). This may have been as far as uniformity went; when the Ten Thousand organized a force of cavalry and slingers, they were equipped with cuirasses and *spolades* (III.3; the *spolas* was a leather defence, perhaps a leather version of the cuirass

worn by Plate 5B) and this implies that both forms of defence were in use. Some of the hoplites may have been without body-armour, as commonly shown in art of the time. The Ten Thousand was a composite force raised by several separate commanders, so individual groups within it may have been more uniform.

In the background are a Greek officer in triple-crested helmet, and a trumpeter in a *pilos*, both on figures from Trysa (Figure 44f and g).

7 The early 4th century

This plate reflects campaigns in Anatolia in the 390s. 7C and 7D are types who served both for and against Persia during this period.

A Lykian cavalry commander

Payava on his sarcophagus (Figure 43c) wears predominantly Greek cavalry equipment with no identifiably native Lykian features. His helmet is damaged on the original but is tall-skulled, perhaps of the "Thracian" type shown. The cuirass has shoulder-straps and *pteruges* at the waist; the monument shows some muscle detail, so it is probably bronze plate (muscle plate cuirasses are shown elsewhere on the sarcophagus). The thigh-guards are similar to those of Plate 6B; again, it is not clear what they are made of, and the reconstruction of scales on a fabric backing is hypothetical. Payava's horse has a narrow bronze frontlet, but no armour for the chest. The *triskeles* symbol shown on the breast-strap is common on Lykian coins. Other cavalry supporting Payava wear helmets and cuirass, but not the thigh-guards; such extra armour may have been rare.

B Lykian infantryman

This man from the Trysa monument (Figure 43b) is armed with the *drepanon* war-sickle. He wears a version of the "Thracian" helmet with its skull drawn up to a peak like a "Phrygian" cap, an early example of a style later popular in Greece and Macedon. It is not clear from the source what he wears on his legs, so this restoration shows the leggings as in Plate 5A.

C Greek mercenary peltast

Based on the opponents whom Payava is riding down on his sarcophagus. He wears an *exomis*

tunic, leaving the right shoulder uncovered for ease of movement, and a conical bronze *pilos* helmet with cheek-pieces and crest. The reconstruction shows the tunic as red, which was by now typical of Greek soldiers. The boots are suggested by the peltast in Figure 44j. He is armed with javelins and a small round *pelte* shield. The shield-blazon is hypothetical, but such stars were popular with Greek troops.

D Paphlagonian cavalryman

Paphlagonian cavalry equipment is never described in any detail, so this reconstruction is hypothetical. Xenophon met tribesmen wearing "leather helmets of the Paphlagonian type, with a tuft of hair in the middle, very much like a *tiara*" (*Anabasis* V.4.12). The comparison with the Persian *tiara* suggests both neck- and cheek-pieces, and probably a peaked crown. The boots are inspired by Herodotos' earlier description, the Median tunic and trousers are suggested by Iranian influence on the Anatolian aristocracies. Javelins and sword, standard cavalry armament, are likely.

8 The later 4th century

The army of the last Achaemenid king prepares for the battle of Issos.

A Darius III in the royal chariot

This figure is based on the portrayal of Darius on the Issos mosaic (Figure 3). The King wears the royal version of the Median costume, with the *tiara* erect. His charioteer wears a quilted linen cuirass, like that of 8C.

B, C Persian cavalry

These two figures, based on cavalry fighting around the royal chariot on the Issos mosaic (Figure 23d, e), may be members of the élite "kinsmen" regiment. 8B in the original is pierced by Alexander's spear, while Darius looks on in dismay; his prominence and rich dress suggest he is an officer. He has no visible armour, but his tunic might cover scale armour. 8C wears a red quilted linen cuirass. The skirts are not clearly visible on the mosaic; the Greek-style *pteruges* are a guess to complement the Greek-style shoulder-pieces and neckflap. Both cavalry carry javelins and swords.

Based on the figures with hoplite shields from the Alexander Sarcophagus. The outer tunic is reminiscent of those worn at Kounaxa, and may similarly have been in a uniform colour. The Greek-style sword is inspired by Curtius' story (III.3.8) that Darius changed the scabbard of the Persian sword to the Greek shape; if there is any truth in this, the *kardakes* are the troops most likely to have been issued Greek swords.

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